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Textile World

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Tragedy—and Ignorance

THE textile industry is indicted as a failure by Louis Adamic in his article "Tragic Towns of New England," published in the May issue of *Harper's Magazine*. It is a failure, he says, because "it has exploited workers and created communities as I have described here."

There is tragedy, it is true, in New England. There is tragedy also in Old England. There is tragedy in every section which, in past years, has manufactured for an area far beyond its own confines, and which, in the last decade, has felt the effect of the shift of industry to newer or recently-awakened sections.

The tragedy, as such, is due partly to this trend toward decentralization. It is due partly to a combination of other world-wide economic developments, far too complicated to analyze on this page. It is due partly to lack of vision on the part of industry itself; and partly to ineffective leadership within the ranks of labor.

The "tragic towns of New England" are not the sole creation of the textile industry and the shoe industry, as Mr. Adamic attempts to prove.

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It is only necessary for us to quote two typical statements from his article.

He says:

"Lawrence, with its tremendous mills, is a 'mistake' which the mill owners have been trying in the last few years to rectify by operating the mills only a little more than was necessary to pay the overhead and taxes on the old mills, and thus killing the unions; for when jobless or working only part-time, workers cannot pay their union fees. The process of rectifying this 'mistake' is still going on. And it is a painful process to the people—especially the working people—of Lawrence."

And, again:

"Few of the unemployed in Lawrence—and elsewhere, for that matter, impressed me as competent people. They were willing, eager to work, but there was something dead in them, as from exhaustion or perhaps too much idleness, without any personal winsomeness or any power of demand. Lost, bewildered souls, victims in the pinch of the machine, victims of the last decade's 'rationalization' and speeding-up in the textile industry, victims of greed for higher and higher profits on the part of the industrialists."

▼

We have no desire to "whitewash" the textile industry. We have devoted this page largely to an exposé of its faults. For a while we were not even positive that it would successfully dodge the "failure" class, to which it has come perilously near in recent years, and which it is now trying to avoid by belated but honest effort. We know, as we have stated before, that the industry has a great deal to learn about labor relations, and that it will never be really successful until its employees enjoy uniformly the same opportunity for prosperity which has come, by and large, to the majority of America's workers.

However, textile manufacturers can look for no guidance from a man who possesses the abysmal ignorance of their problems displayed by Mr. Adamic. Nor can the workers in Lawrence or any other textile community. "Tragic towns of New England" will strike new depths of misery if his type of thinking prevails.

The Week in Textiles

as Reflected in This Issue

General

Statistics as a Profit-Maker
The textile industry is still a long way from full realization of the value of statistics, both in maintaining a stable market and in developing new outlets. H. S. Davis, of the Industrial Research Department, University of Pennsylvania, tersely explains just what statistics are needed to remedy current ills of industry. *(page 20)*

School Commencements
Additional textile school commencements are reported this week including Georgia School of Technology, Lowell Textile Institute, and North Carolina State College. The Philadelphia Textile School alumni met. *(page 28)*

Individual-Motor Loom Drive
The individual-motor drive for looms increases production, reduces breakage of loom parts, and improves quality of the woven fabric. *(page 32)*

Southeastern Economic Council
Organization meeting of Southeastern Economic Council has been held and important textile men hold prominent offices. *(page 36)*

Textile Projector
A new optical instrument, known as the "textile projector," facilitates the discovery and examination of defects in woven and knitted fabrics. *(page 47)*

Over-End Creel
A new over-end cone creel for rayon and fine cotton takes 600 to 1,000 cones and can be employed with any type of warper. *(page 47)*

Cotton

Results of Cotton Week
Tangible and beneficial results of National Cotton Week are reported from various quarters. *(page 30)*

Sees Cotton Improving
Pessimism in the cotton industry has been carried too far and prospects for raw cotton are decidedly more promising than current sentiment would indicate, asserts Homer W. Davis, of Orvis Bro. & Co., after 3,800-mile trip through the cotton area of the South. *(page 37)*

Spindle and Loom Figures by States
Location of spindles and looms in cotton goods mills, by states, together with trend since 1919, are indicated in table compiled by Department of Commerce. *(page 37)*

Mildew-Proofing
Cresylic acid, phenol, sodium benzoate, and sodium silico-fluoride are recommended for mildew-proofing cotton yarn. *(page 38)*

Yarns for Print Cloths and Lawns
A table is presented listing the warp- and filling-yarn numbers for various constructions of print cloths and of combed and carded lawns. *(page 38)*

Cotton Touched New Lows
Raw cotton went to new lows recently and recurrent rallies were never long held. *(page 53)*

Cotton Yarns Steadying
Cotton yarns are relatively steady in face of irregular cotton. Every rally is seized upon by spinners as an argument to resist buyers' low offers. *(page 53)*

Lower Prices for Cotton Goods
Further recessions have occurred in cotton goods during the last two weeks; demand remains quiet. Stocks have not increased to the extent that might have been expected and remain small. *(page 59)*

Wool

Carpets and Rugs
Although textile-machinery firms are ready and willing to assist in the modernization of carpet and rug mills, there is a large amount of development work which these plants should undertake themselves. *(page 26)*

Fulling and Scouring
Solvent detergents are gaining favor in fulling and scouring, due to a better understanding of their true function in these processes. *(page 34)*

Wool Industry Should Curtail
The wool goods industry must curtail production or be prepared to suffer the consequences, says Dr. Lewis H. Haney in the TEXTILE WORLD Analyst. He finds that mill consumption of wool has increased more rapidly than general statistics warrant and regards a little further easing in wool prices as probable. *(page 49)*

Fine Wools Hold Interest
Fine wools have attracted about the only orders moving in raw wool circles lately. *(page 55)*

The Textile Outlook

THE waiting period in several branches of the textile field is being extended. Uncertainty as to what constitutes bottom levels on cotton is an important element in the present hesitancy of buyers of materials made from it. Curtailment is again coming to the fore as a stabilizing influence and unless betterment comes soon in a number of lines, summer shutdowns will be more extended than originally planned by mills on these particular items. Absence of burdensome stocks suggests that, when a turn comes, business will be brisk and prices firm. If all mills could only see the picture in the same light at the same time, prices could be asked which would include a proper profit for the work done. . . . Cotton goods prices went off this week but brought scant business. Cotton failed to hold its recurrent rallies, but yarn men endeavored to use each rally as a resistance point. Wool goods selling broadens and remains the best part of the field at present. Warnings on over-production are being heard. Knit goods move irregularly. Summer silks are being sacrificed though the raw material is no weaker than for the last few weeks.

Worsted Yarns Selling

Worsted yarns have been selling in fairly satisfactory volume lately, but at prices which spinners condemn as profitless. *(page 55)*

Men's Wear Sells More Widely

Houses that have been doing all the business in fall men's wear are sold ahead so far that other sellers, which have been inactive up to this time, are now booking orders more rapidly. Fall women's wear not moving yet. *(page 59)*

Knitting

Hosiery Given Away!

The following may or may not be symbolic of the present condition of the full-fashioned hosiery market: A smart specialty shop on Lexington Avenue, New York, this week devotes a window display to an offering of three pairs of $1.95 full-fashioned hosiery for $4—and an extra pair free. The stockings are fine guage and are available in all the current shades.

Mesh Hosiery

The vogue of mesh hosiery is upon us! There is great variety in mesh effects and new stitches are constantly being offered. The goods can be made on most full-fashioned machines by use of suitable attachment. *(page 22)*

Spots on Hosiery

Spots on silk hosiery are laid to mildew. Preventive and corrective measures are suggested. *(page 39)*

Twill Effect

Introducing backing yarn by means of special plugged-wheel feed gives twill effect on fabric knitted on burr-wheel machines. *(page 39)*

Urge Hosiery Curtailment

Recognizing the tendency of women's full-fashioned hosiery mills to resume producing for stock, the National Association of Hosiery and Underwear Manufacturers recommends they produce to order only in July and August. *(page 60)*

The Cotton-Textile Institute

Huge banner hung across Broadway at Worth St. in the New York cotton textile district during Cotton Week

Lightweight Underwear Cut?

Anticipating a heavy carry-over, some producers of lightweight underwear are reported to have cut prices. Demand continues good, however, and general tone is firm. *(page 60)*

Skeleton Swimsuits for Women

A new line of backless bathing-suits with skeleton front, for women, is being offered, but the market is skeptical of the line; considers it too daring. *(page 60)*

Silk

Adjusting Loom Pick

The picking motion is the most important part of the loom. Several tricks permit adjusting it easily and accurately. *(page 24)*

Heddles per Inch

Double rows of heddles prevent overcrowding in loom set-ups for heavy weaves. *(page 38)*

Silk Needs a Tonic!

When will fall buying start to give raw silk its much-needed tonic? This is the question importers are asking, following a new drop in prices. *(page 57)*

Yarns Pick Up—Then Lag

Thrown and spun yarn sales enjoyed a brief rally, but demand again has slackened, due to summer lull. *(page 57)*

Velvets Hold Strong

Velvets and a few special chiffons are the only strong numbers in a weak and somewhat discouraged broadsilk market. *(page 59)*

Rayon

Lubricating Spun Rayon

Watery emulsions must be avoided in the lubrication of rayon waste for spinning, as water causes a disintegration and breakage of the fibers. *(page 38)*

Conditioning for Winding

Spray systems are commonly employed for applying oil to rayon previous to winding and quilling. *(page 39)*

Yarn Sales Recede

The summer lull begins to affect the rayon market; sales are declining but producers are still trying to catch up with orders which have been already booked. *(page 57)*

Processing

Streaky Worsted Top

Streakiness in dyed worsted top is laid to forcing the colors too rapidly. *(page 39)*

New Loop Dryer

A new loop dryer, developed primarily for asbestos fabrics, can be adapted for a variety of materials. *(page 46)*

New Cloth Washer

A new cloth washer has double the capacity per foot of length of previous models. *(page 46)*

The Business Outlook

EARLY June measures of business movement show a slight intensification of the oncoming summer flatness in some lines. But marked and mildly encouraging irregularities are developing in the picture at a time when a fairly uniform let-down might be expected under the prevailing pessimism. Steel activity continues to sag under an accentuated seasonal slump in automotive requirements. Building contracts, especially residential, seem to be weakening a little along with power production; but carloadings are holding their seasonal level and coal output is higher. May department store sales did not continue to show their earlier strength. The sustained high level of outstanding currency is probably not unconnected with continued weakness of confidence and local outbreaks of bank closings. Nevertheless there is something impressive about the persistent failure of our index of general business activity to break through its resistance level at this stage. The same is true of stock prices and commodities. The outlook for better wheat prices, in particular, is more promising.

The Business Week.

What Statistics *Are Needed In Textiles?*

By H. S. Davis

Industrial Research Dept., University of Pennsylvania

◆ *It is doubtful if the average industry visualizes the complete statistical job which it must do if it is to develop informative data on the basis of which it may operate most effectively. The author of the accompanying article tries to present a picture of "integrated statistics" which would meet such a specification in textiles. As he indicates, the end point cannot be reached at once or in the near future, but the definition of the objective is a start in the right direction.*—EDITOR.

TEXTILE men cannot escape statistics. Regardless of where they turn someone requests figures. Moreover many government officials, trade editors, and industry leaders join in urging statistical programs as necessary to the industrial health of textiles. Of course, it is possible to ignore these pleas, and have business continue. But as no one seems quite satisfied with the way business does continue, the claims for statistics cannot wisely be waved aside without scrutiny. When most industrialists talk about statistical programs they have in mind the regular collection and dissemination of pertinent trade figures. What benefit is expected to accrue from such activity? Obviously such figures cannot of themselves create new business. Those who advocate these programs see the figures obtained as management's "tools" for gearing production to demand. We propose here to see what sort of a statistical program is needed if these "tools" are to be effective.

By "gearing production to demand" is doubtless meant the adjustment of today's production with tomorrow's demand. It is what consumers will buy next season that determines whether curtailment or expansion of present production is in order. Perhaps this reason along with the difficulty of collecting demand data accounts for the fact that we often are asked to infer the course of demand from some set of production figures. But mill men need more than their own composite guess on next season's consumption as is represented in their machine activity or goods production. Conditions since 1923 have painfully demonstrated the textile industry's success at over-guessing the market.

How may tomorrow's demand be measured? The volume of consumer purchases depends upon purchasing power and desire. To measure these is to estimate tomorrow's demand. Desire for wearing apparel is, in part, a function of replacement needs, living habits, and the family budget. Replacement needs depend upon present stock of apparel in the possession of consumers. Changes in living habits probably do not bulk large in demand changes from season to season. Likewise the relative position of wearing apparel in the family budget may remain fairly stable from one season to another despite the appeal of convenience or luxury goods. The style element is neglected for the moment only because we are dealing with wearing apparel in general. Changes in purchasing power, however, soon reflect themselves in the volume of retail sales.

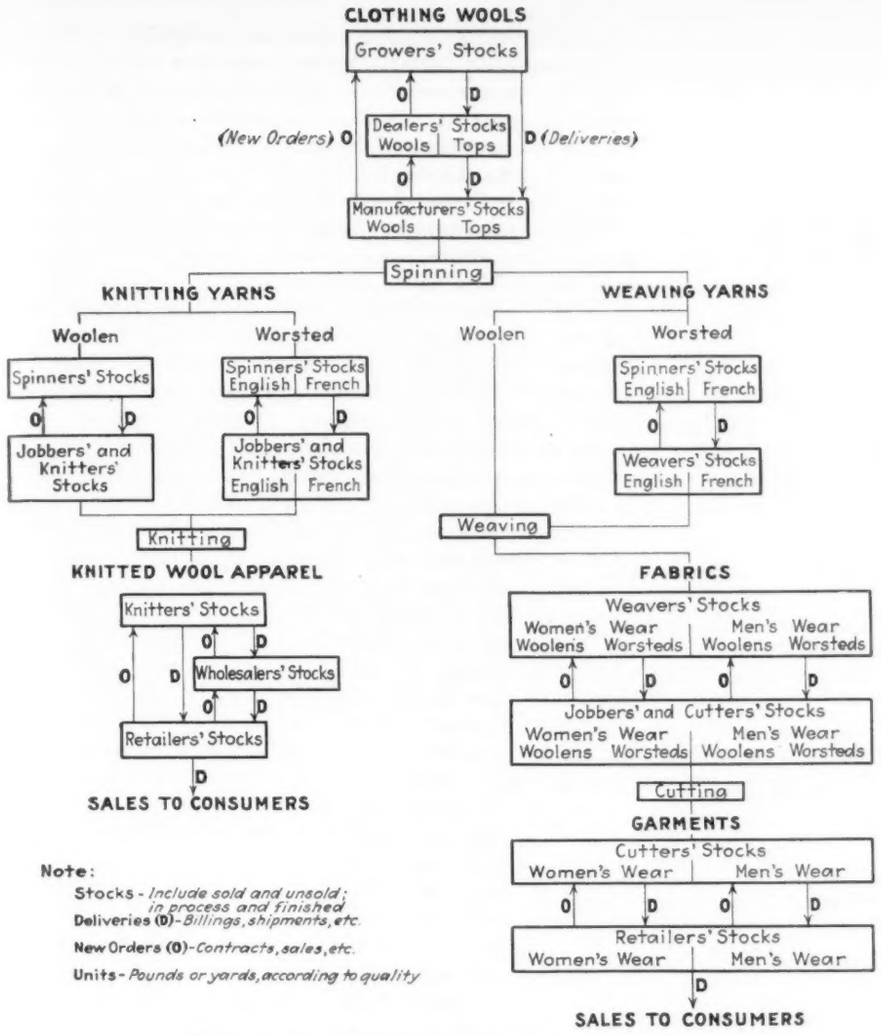
This brings us up short against the problem of "forecasting" changes in purchasing power. We cannot delay until the change in income has occurred and then predict the effect on sales, for sales volume would already be responding to the new income level. Estimating next season's or next year's national income is too large a problem to throw in with the usual activities of a trade association's statistical bureau. Agencies concerned with measuring changes in general business conditions must be relied upon here. But how are we to get a measure of the future demand for specific textile merchandise?

Perhaps our best answer lies in finding out the present rate of consumption and then evaulating the causes which are likely to give rise to variations in this amount during the coming season. In other words, the trend of retail sales over the past few seasons would serve as a "base line" from which to estimate changes in next season's demand due to such factors as style movements, climatic conditions and income fluctuations. Here we are referring not to sales in general but to specific lines of textile merchandise such as blankets, women's hosiery, or men's suits. Moreover, we have in mind not dollar values but actual physical units. Some notion of the "stock" of merchandise in the consumers' hands is also essential if the new season's demand is to be clearly pictured.

But a spinner or throwster might still have many worries even though it were possible for him to know that 1,400,000 doz. bathing suits would probably be purchased next season. For instance, it would be most important for him to know how much bathing suit yarn was already in stock. Again his planning could be effective only to the extent that raw material markets were considered. All this amounts to saying the obvious: Producers and distributors are subject to the play of both supply and demand forces. Therefore, management's kit of "statistical tools" must contain more than estimates on next season's consumption.

Gauging the Flow of Goods

Suppose we regard modern industrial activity in any line as the flow of goods from raw material producer through various converters and distributors to the ultimate consumer. What knowledge is needed as to the nature of this flow in order that it may be controlled?



INTEGRATED STATISTICS IN WOOL APPAREL
An illustrative outline of business gauges—stocks, deliveries, new orders—for a group of related industries

After all, we really mean "controlled production" when we talk about stabilization. Modern engineering cannot stabilize the Mississippi River, but it does take steps to control the area of the river's depredations. So perhaps we can borrow certain analogies from flood control in seeking to understand the flow of business. The rate and level of the flow together with precipitation at the headwaters seem to hold most concern for flood and reclamation engineers. Translated into terms of our business flow these "gauges" become:

1. The rate at which goods are flowing from one producer or distributor to another, on their way to the consumer. (*Deliveries.*)
2. The level of goods at each stage of the flow. (*Stocks.*)

Estimates of raw material production in textile fibers are poor substitutes for the engineer's snow and rainfall records. Precipitation forecasts river flow but production does not forecast the flow of goods. So a third gauge seems desirable.

3. The prospective rate at which goods will flow from one producer to another. (*New Orders.*)

The opinion is here ventured that these three "gauges," available currently and applied intelligently, would prove invaluable to textile managements in controlling production. Under given conditions of distribution there is a level above which stock accumulations are unhealthy, and below which additions to stock are not alarming. Figures on deliveries or shipments would aid in determining this level. The ratio of stocks to deliveries is suggested as a measure well worth study from month to month. The use of deliveries in preference to production or some other index of activity may be questioned. Deliveries seem more significant than activity data. It doesn't matter a great deal how much is being produced or "converted" at a particular stage in the flow of goods. But how much is accumulating against how much is being deliveried often spells the difference between success and failure—between an orderly and a demoralized market.

Suppose it were possible to compile a set of monthly stock records, say for worsted sales yarn, covering all transactions of the last ten years, and representing all spinners.

With this curve at hand what could we know about the present position of yarn stocks? Only whether they were high, low, or "normal" in terms of past experience. This information would be helpful but only to the extent that conditions today are similar to those of the last decade. More pertinent is the stock level of those to whom the spinners sell, and from whom the spinners buy. The stock situation between the spinner and the ultimate consumer, considered in light of the raw material supply, tells whether the spinners' stocks are low, "normal" or excessive. In a word we need a current "moving picture" of the flow of goods from raw material producer to consumer with "views" taken at critical stages of manufacture and distribution.

Our current "gauges" of stock levels and delivery rates are quite inadequate, however, in analyzing certain fundamental conditions. Reference is had here to the trends in such fields as raw material supply, productive capacity, and consumption. Knowledge of these trends is certainly essential if we are to view the current situation in the proper perspective. Annual surveys or reviews are suggested as necessary to appraise properly the trends in these fields.

1. *Raw Material Supply:* An annual review designed to evaluate prospective changes in the supply during the next few seasons.
2. *Machine Inventories:* Annual censuses of key productive equipment such as spinning spindles and looms with a view to measuring changes in capacity, particularly drift toward or away from further excess capacity.
3. *Stock Policies:* Each year a study of changes in stock and sales policies would seem necessary to provide an adequate basis from which to judge fluctuations in stock levels during the coming year.
4. *Consumption Analyses:* Demand depends upon the

(*Continued on page 31*)

Mesh Hosiery

Proves Good Profit-Maker in Bad Year

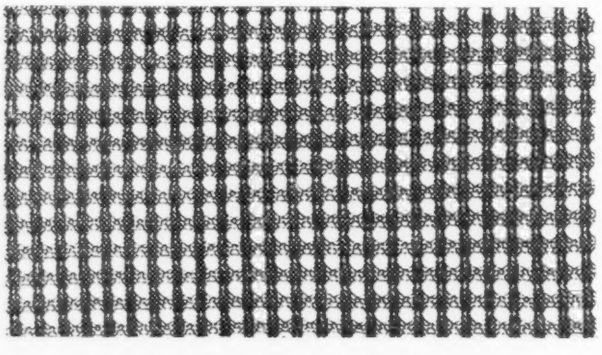
By John Black

Assistant Editor, TEXTILE WORLD

THE present remarkable call for women's mesh hosiery, while apparently a contradiction to the prevailing trade-down tendency, is actually a direct result of that trend. The best grades of mesh hosiery, now selling at high pressure, retail at $1.35 to $2.95 per pair. They are bought chiefly by women of means and discrimination, who turned away from the staple silk full-fashioned when these stockings fell into the price class.

The growing demand for mesh hosiery has been an outstanding feature of the year in knit goods, and it has been nothing short of a life-saver to mills whose other lines were badly hit by the business depression. Originally a novelty line, with its appeal restricted to a small select clientele, mesh hosiery has leaped forward, until today some of the chief producers find their sales of these numbers to be between 25% and 30% of their other full-fashioned sales.

Certain knitters find demand well in excess of supply, and they are asking two to four weeks for delivery of mesh numbers. These mills are operating at capacity anticipating a steady demand for this line throughout the summer and well into fall. The more exclusive firms —among them those who produced mesh hosiery before it became a volume proposition—take a more long-distance view. These firms see the lace stocking as an all-year staple for the woman of fashion. They frown on the idea that this is a "boom," claiming that the qualities and advantages of mesh hosiery are permanent, and will not be affected by seasonal change.



Detail of new Tobin number, "Waffle"

The prospects for lace hosiery, indeed, are difficult to define. Even while sages in the market attempt to foretell its fate, an offshoot of the mesh hosiery vogue has developed which promises to be significant; that is, lace top hosiery. Lace top hosiery offers a powerful tie-up with the feminine trend in women's apparel, and manufacturers of these lines report rapidly augmenting sales.

Clarke W. Tobin, of Clarke W. Tobin, Inc., New York, foremost designer and distributor of mesh hosiery, whose lines are manufactured by the Gotham Silk Hosiery Co., described the growth of the mesh hosiery demand, in an interview this week. Mr. Tobin has specialized in mesh hosiery for more than a decade, and has been one of the chief figures in winning consumer recognition of these stockings. He is a 100% optimist as regards the future of this market.

"Mesh hosiery is here to stay," Mr. Tobin said, "but that is subject to several provisos. It will hold its own in the quality market, so long as standard is maintained, and the range of beautiful stitches in lace is kept varied. There is a trade-down trend at present, but that will not affect the quality lines, as new patterns and high standard production will always appeal."

His catalog of reasons for the popularity of these stockings follows:

First, mesh wears well and is fashionable.

Second, it has no rings or sinker stripes;

Third, it shows no mud-spots and dries quickly on a rainy day;

Fourth, it is a healthy stocking, as the open fabric allows the skin to breathe;

Fifth, the mesh pattern accentuates sheerness.

In conversation, he added a sixth advantage, namely, that mesh hosiery is less apt to run, due to type of knitting.

The present mesh vogue had its inception late last summer, when the style-conscious consumer began to look around for "something different." "Needle-point," a conservative and distinctive mesh, offered by Mr. Tobin was a pioneer number, and the fall months found this stocking in growing demand. Other lace designs, created by the same firm, then were offered and won quick approval. Between "Needle-point" and the newest Tobin number, "Waffle" which has just been announced, there is a wide and varied range of designs, among which "Silken Veil" has been especially important.

Mesh hosiery wearers prefer small designs, in the highest quality numbers. Squares and minute diagonals are emphasized in fall offerings, tying up with the stress on diagonals in all fabrics. The same public leans to dark shades, one reason being that these shades accentuate sheerness by appearing lighter when worn. Black is an outstanding color, with dark browns also important. The quality public is also interested in nude tones, however, and these shades enjoy active call at present.

Mills producing mesh hosiery for the volume trade, find a strong preference for large widely-spaced designs; one sales executive commented that "they can't make them

too large for our trade"; these producers sell mesh for sports, daytime and formal wear, with the first two groups leading.

During winter and early spring, competition in lace hosiery offerings became keen, though there is still a fairly definite line between the quality and the volume merchandise. Competition accentuated the importance of design, until this became a major element. Mr. Tobin, who creates all his own designs, said he had no fear that demand would decline, as demand depends largely on originality of design. The possibilities of new patterns are practically unlimited, he explained.

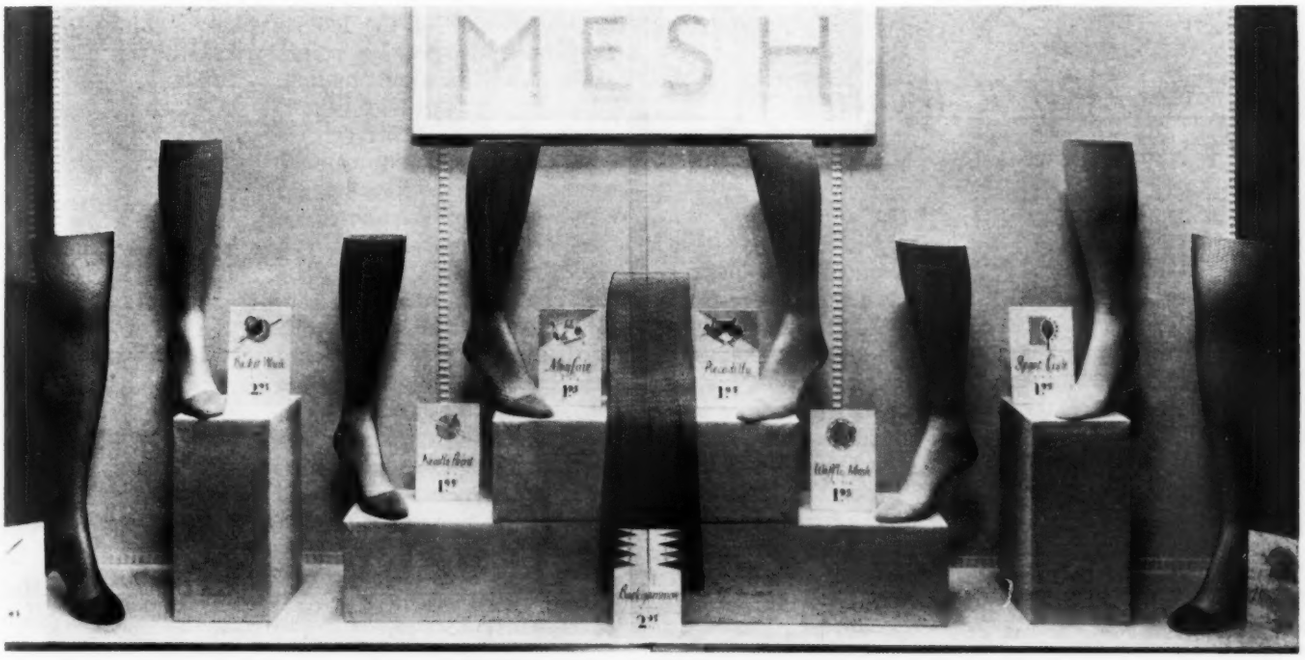
"Competition limits the life of a design," he asserted, "and of course, our designs are being stolen constantly. We cannot get protection. We are helpless on that score, so we are forced to offer new designs very frequently."

Mechanically speaking, there is nothing to prevent any full-fashioned hosiery producer from making mesh stockings. The only requisite is a lace-making attachment which is put on an ordinary full-fashioned machine; mesh hosiery also is being made on jacquard lace machines. Mr. Tobin's numbers are manufactured by a special department of the Gotham organization. Much emphasis is laid on the maintenance of standard in output and a specially trained personnel is employed in this work.

Only the highest type of knitter is engaged and this has so improved the product that seconds are no problem. The Gotham mills put the merchandise through careful inspection tests. A new type of inspecting machine is used, by means of which the stockings pass over a light.

By far the larger quantity of lace stockings offered today is made of silk, but there is also a growing market for lisle mesh numbers, and the synthetic yarns too are coming into this field, in competition with the lisles. The Gotham mills use 100% pure, high-twist silk yarn for their silk mesh, and Durene mercerized cotton yarn for their lisles. The domestic call for lisle mesh hosiery is limited due to the extensive importation of German-made lisles. As noted in TEXTILE WORLD recently, the National Association of Hosiery and Underwear Manufacturers has protested to Washington about the duty classification of these imported lisles; it is charged that they come in as cotton hosiery, paying only 50% duty, when they properly should come in as lace, paying 90%. Mr. Tobin said that proper enforcement of duty requirements as regards German lisles would do much to help the sale of American-made lisle mesh hosiery. He said he did not regard the lisles as competing with the silk mesh, since the two types go to different classes of customer.

In the quality hosiery field, lace numbers have won overwhelming popularity and with numerous firms they have practically eliminated the more expensive staple silk full-fashioned. It is estimated that 75% of the higher grades of women's hosiery now being sold is mesh. Leading retail stores that cater to the discriminating woman were an important factor in building the present demand. Mesh hosiery manufacturers started an active promotional drive last fall, and stores gave excellent cooperation. Consumer response increased each month and when the year turned most of the quality stores of the country were doing a good business in mesh stockings retailing at from $1.95 to $2.95.



Window display featuring varieties of mesh hosiery

The peak promotional job was done by William Filene's Sons Co. This store featured mesh hosiery in a special style show, in radio broadcasting talks, in window displays and in extensive advertising; the store also undertook an educational campaign to sell the mesh hosiery idea to its own personnel. The result was that Filene's enjoyed a remarkable turnover in mesh hosiery.

Mr. Tobin regards the present tendency to produce lace hosiery "at a price" as unfortunate, but he does not consider that it will affect the quality lines. The difficulties in making truly attractive mesh numbers, and in creating original designs, he believes will automatically eliminate this line from the volume field.

"Mesh has fashion approval and it is due for a long stay," he said, "It is being emphasized in underwear and in outerwear. Style decrees for the rest of the year accentuate mesh in blouses, skirts, suits, shoes, hats, etc., and, of course, mesh hosiery.

Tricks

Which Save Time and Trouble in Adjusting

Silk-Loom Pick

By H. E. Wenrich

SEVERAL years ago a prominent silk manufacturer, in discussing loomfixing, made a very important point. "If a fixer," he said, "had 49 looms picking properly in a section of 50, at least 60% of his work would be eliminated. The other 40% of his time would be spent trying to make the fiftieth loom run."

The most important part of a loom is the complete picking motion, which includes several parts not in the picking motion proper, but which must be given attention in order that suitable adjustment of the motion may be made. All parts must work in unison. All must be timed perfectly in order that the cloth will be woven satisfactorily and in the most economical way. A loom to run free and easy must have a well-balanced pick, and a well-balanced pick will show proper adjustment has been made.

A good fixer can place his hand on the handrail and tell by touch exactly what size is over-picking—and often just where the trouble lies. More pick on one side of the loom than on the other will often cause a jarring effect from the side that is doing the greater amount. The same holds true when it has been necessary to load pick on certain places to drive the shuttle across; this often gives the lay a jerky motion, besides banging off the loom, frequently breaking parts, and ruining the cloth.

Of the various types of picking motions two are most commonly found on silk looms. The adjustments given are adapted to narrow or wide looms as specified. The first type to be described will be the "batwing" motion, and the second will be the "cone" picking motion. For the narrow loom I have had best results with the batwing motion, while for the wide loom I strongly prefer the cone motion. However, the two motions will be found on both narrow and wide looms. Some types of looms using the cone motion have the picking shaft on the bottom of the machine below the drive shaft, the picking point striking the cone downward in the same way that the ball of the batwing motion strikes the picking shoe. The other type of cone motion has the shaft mounted on the outside of the loom frame just below the top shaft, and the picking point strikes the cone upward.

On the batwing motion, which is illustrated in Fig. 1, the picking ball or roll is secured to the picking cam by means of a stud. The picking cam has a slot which allows the stud to be moved within a radius of about 3 in., and the pick can be controlled to a certain extent by this means. In adjusting the pick on a loom that has been idle for some time, it is good practice to place the stud in the exact center of the slot. After other points on the picking motion have been satisfactorily adjusted, the stud can be moved forward for advancing the pick or backward to retard the pick in case the time is not quite right.

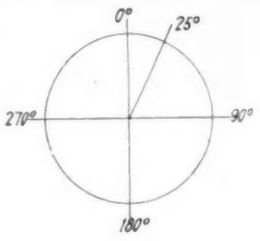


Fig. 2. Sweep of crank arms

The cam *B* is shown on the drive shaft *A* with the picking ball *C* secured to the picking cam by means of the stud. The picking ball is shown resting on the face of the picking shoe *D*, which can be moved forward or backward on the picking-shoe shaft by tightening or loosening the two setscrews *E* on the bottom of the shoe. The width of the loom must be taken into consideration when setting the picking shoe.

The side view of the picking ball striking the picking shoe on the batwing motion will give the novice the position of the picking cam on the drive shaft. When the ball comes in contact with the shoe, one-sixth of the face (*F*) of the picking ball should extend out from the face of the shoe and not come in contact with the shoe at any time during the pick. As the ball forces the shoe downward, the point of the shoe comes in nearer the center of the ball. Moving the shoe forward will give an earlier pick, while moving it backward will give a later pick.

There is one method of determining the timing of the picking ball and shoe in giving a well-balanced pick that not one fixer in ten knows how to use properly. It is, however, a trick that is quite simple and produces results when other methods of timing often fail. After

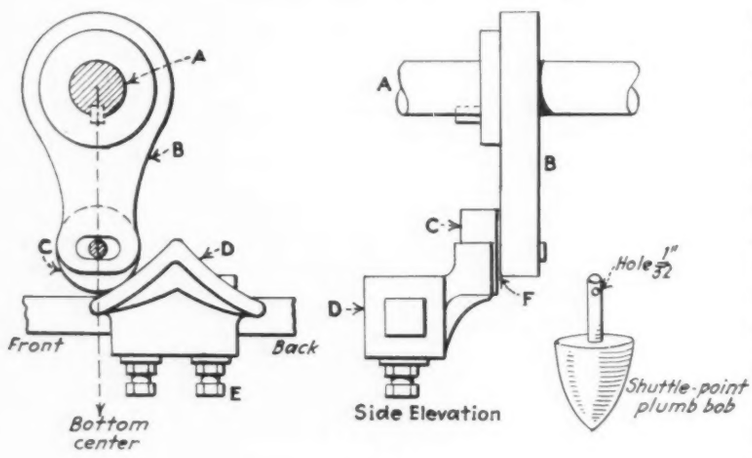


Fig. 1. Batwing motion

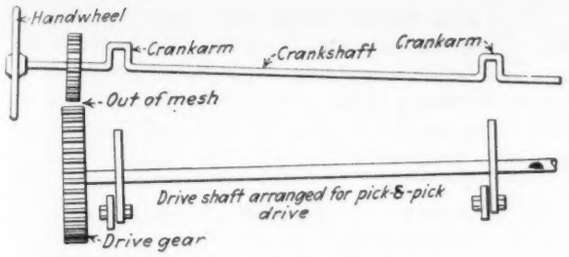


Fig. 3. Method of timing crank arm

the timing has been accomplished by this method, the loom need never be adjusted again, unless a breakdown occurs that requires removing of the driving gears. First of all, however, the adjustments on the picking sticks, the lug straps, and the sweep sticks must be looked over to see that no further adjustment can be secured at any of these places without doing damage to the loom. If the lug-strap holder is down too far on the stick and the sweep stick is up all the way, we shall assume that the loom is way off in the picking time and shall proceed to adjust the picking ball and shoe to conform to the running of the loom.

Timing Picking Ball and Shoe

Turn the loom by the handwheel until the stud in the exact center of the picking cam is at exactly bottom center below the center of the drive shaft. A plumb-bob can be made from a shuttle point and suspended on a string tied around the shaft. Next the picking shoe should be moved up against the picking ball in order that it will rest against the face of the ball in the position shown in Fig. 1. Block the drive shaft with two wooden blocks, one on each side of the driving gear, so as to prevent the shaft from turning either way. This requires exactness, and the wooden blocks must be wedged tight.

Fig. 2 represents the sweep of the crank arms on the crankshaft as back center, 90° ; bottom center, 180° ; front center, 270° ; and top center 0°. With the wooden blocks holding the drive or bottom shaft from moving, the crank arms should be in the position at an angle of 25° past top center or zero. On looms in which the pick has been difficult to secure, the crank arms will often be found at top center. Should this be the case or should the crank arms be in any position between zero and the 25° angle, the crank arm should be adjusted to the desired position.

To move the crank arm one tooth or more, as necessary, the bearing caps are removed from the drive side and from the middle bearings of the crankshaft, and the bearing cap on the side opposite to the drive is loosened to allow lifting the shaft out of the bearing on the drive side. Gear guards, brackets, or any other loom parts that are in the way must be removed. Fig. 3 gives an idea of the manner in which the crankshaft should be lifted so the crank-arm gear will be out of mesh with the driving gear, allowing the crank arm to be moved to the 25° adjustment desired. In order to secure results, it may be necessary to move the arm but one tooth or it may be necessary to skip about five teeth. After making this adjustment, replace all of the loom parts, as the pick can now be placed on the loom in the proper manner.

It often is found that, in running looms pick and pick, one side of the loom is picking earlier than the opposite side. It should be remembered that both sides should have the same pick on the shoes. Should one picking ball be timed a trifle earlier or one picking shoe be moved front a trifle farther, giving an earlier pick, the loom will be entirely out of time, although it may run for a considerable while without banging off. Both picking balls should come down on the shoes at the same time, the shoes being adjusted so the loom will be picking over both exactly alike. In case the loom needs adjustment on either side for more or less pick, the sweep of the picker stick may be changed. By placing the hands on the handrail, two distinct jars can be felt if the picking balls strike the picking shoes at different times.

Cone Motion

On looms that have the cone motion (Fig. 4), the method of timing the crank arm with the pick is practically the same as illustrated in Fig. 3, with the exception that in this type of motion the picking-cam point should rest up against the picking cone in readiness to strike the point. This type picks upward, slightly on a forward stroke, and gives a snappy pick. The picking-cam plate mounted on the lower shaft or drive shaft strikes the picking cone, which is mounted on the stud. This is sometimes held in place by a setscrew and sometimes by means of a cover bolted to the picking shaft. This shaft is mounted on the outside of the frame below the crankshaft by means of a bracket bearing on the front and back parts of the loom side. To time this type of motion the same method is followed as in the other types.

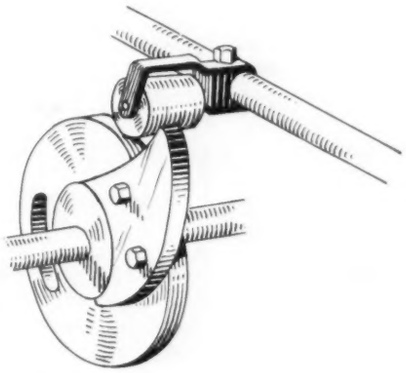


Fig. 4. Cone motion

Narrow looms require a pick adjustment entirely different from wide looms. On wide looms the pick must be quick and snappy in order to carry the shuttle across, and the more acute the points of the picking shoe and picking-cam point, the snappier the pick.

On slow-running looms the pick must be timed a trifle sooner than on looms which are faster timed. To make a satisfactory adjustment that will cause the least trouble in the long run, on the batwing type the shoe should be moved on the shaft and on the cone type the picking-cam point should be moved on the cam plate. When a loom is speeded up or slowed down in accordance with the weave which is mounted in it, the method of pick adjustment suggested is far preferable to other means.

Although the parts of the loom described afford the proper means of securing pick under certain conditions, there are other methods of pick adjustments which are used under other conditions. Each part of the picking motion has a definite duty required of it, and it is a fixer's business to understand fully just what adjustment he must make to produce the desired pick. In case an adjustment has been made and fails to produce the desired result, the part should be changed back to former position before a new adjustment is made. By following this procedure one learning the tricks in fixing will not have his machinery out of time.

This article is the first of two by Mr. Wenrich on adjusting the pick. The second will appear in an early issue.—Editor.

Carpet and Rug Mills

Critically Studying Equipment

By E. Wadsworth Stone

Research and Consulting Engineer, Bigelow-Sanford Carpet Co., Inc., Thompsonville, Conn.

◆ *The benefits already realized and those which may be expected in the future from research and comprehensive engineering in carpet and rug mills are described in the accompanying article. This is an abstract of the paper prepared by Mr. Stone as his contribution to the discussion of Albert Palmer's paper on weave-room studies, presented at the Hartford meeting of the American Society of Mechanical Engineers, June 3. Mr. Palmer's paper may be found beginning on page 44 of our issue of June 6; but familiarity with it is unnecessary for full appreciation of Mr. Stone's discussion.*

ALTHOUGH rug weaving is one of the oldest and best known of the textile arts, not until nearly the beginning of the present century did production of soft floor coverings assume any real proportions. It remained for Jacquard in 1800 and more especially Bigelow in 1848 and Skinner in 1860 to develop the power weaving equipment about to its present form.

Within the last few years many individual establishments and companies have been regrouped to improve manufacturing costs and styling, increase production, and meet modern competitive conditions. These factors have forced us to realize that the present-day equipment is essentially the same as that of 50 years ago and that large-scale production will demand greater flexibility and standardization of equipment engineered to conform to our particular conditions of service.

It has been my good fortune to contact with many of the leading manufacturers of textile and related machinery, and in almost every case an approach to our mutual problems with an open mind and in close cooperation has met with excellent results.

The benefits to be derived from research and comprehensive engineering work are by no means confined to the manufacture and use of new equipment. They apply to the acquisition of raw materials, their selection for the particular purpose in mind, and their fabrication to suit existing or new equipment—all to secure a low-cost quality product for quick delivery.

The application of careful study and analysis of our own weaving processes has resulted in a reduction of from 25% to better than 50% on some grades in the total average time lost other than that consumed in actual weaving operation. As a yardstick for measuring cost, we have provided what we choose to call a barometer; and a periodic check is made between performance and the predetermined or established standards. The ratio of actual to the established cost, or standard, becomes the measure of performance. If this equals the standard, our barometer rating would be 100. If over 100, it indicates excess cost; and if lower, a manufacturing profit.

The lost time based on 100 yd. of production has decreased an even greater amount, and the yardage produced per net loom-hour operated has shown an appreciable improvement in spite of an increased tendency toward wide widths of fabric and the consequent lower rate of production. This saving is entirely apart from that gained by the speeding up or remodeling of existing

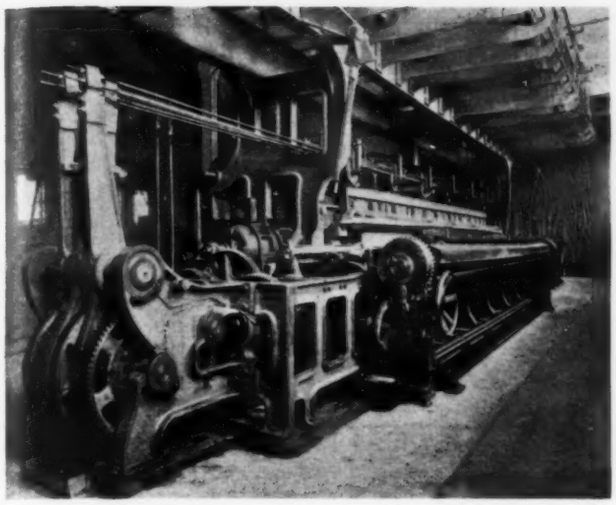
Westinghouse photo.

The spinning department must be included in in the study of equipment and methods

machinery, or its replacement with more modern units. Improvements in weave rooms have been paralleled with similar improvements in the preparation of raw materials, power generation, and a better coordination of the entire plant personnel and equipment.

These points are mentioned to indicate that while the loom manufacturers and others should be in a position and willing to furnish more modern equipment, there is much that we can all do to get our own house in order so that we may enjoy the expected benefits.

While many of the factors outlined by Mr. Palmer are likewise applicable to our own weaving processes, there is still another factor which is of prime importance. Standardization of domestic rug sizes and the consumer's preference for seamless instead of seamed fabrics has brought about a comparatively rapid change from weaving equipment suitable for 27-in. or 36-in. goods to that for fabrics 18 ft. in width, or better, and woven in rolls from 30 to 40 yd. in length. This demand on the part of the trade, and the manufacturers' attempts to meet it, have resulted in equipment weighing upwards of 50 tons per unit in contrast to the looms described by Mr. Palmer



Heavy carpet loom, result of the type of research discussed by Mr. Stone

of a few thousand pounds in weight. They include special foundations, considerable floor space, dual motor drive, modern electrical-control mechanisms, lubrication systems, roller bearings, alloy steels, and many other features quite new and until recently not associated with the weaving art.

To what increase this width and size will go, only the future can tell. At first there was a marked tendency merely to increase the size and dimensions of the framework of existing equipment, assuming that the strength would naturally take care of itself. This has lately given way to an engineering approach to the question of machine design with parts suitably proportioned and the proper materials used to perform the desired functions. It was preceded by an analysis of requirements, fundamental motions, and limiting speeds.

The question of loom speed, while important, is but a portion of the answer. It is quite important to see that raw materials are so prepared as to lend themselves to the increased speed and conditions of operation. The modification of certain assemblies oftentimes facilitates speeding up the loom only to find that other assemblies are weak in design and construction, or to discover the fabric or raw material limitations as just mentioned. There appears to be an economical balance between perfect yardage, speed, and total cost, including repairs and maintenance.

It is interesting to note that while many patents have been taken out on textile equipment, and more especially in the last decade, the majority of these have for their basis only minor changes in construction and design. There has been little of fundamental nature, although there have been countless repetitions in mechanisms of minor character to perform the same service—all due, no doubt, to the manner in which our industry grew and its confinement largely to isolated individuals.

The research and comprehensive engineering, no doubt as time goes on, will divide itself logically into pure research, the corresponding development of equipment, and its reduction to practice, and will apply to methods, materials, machines, and operation.

A standard carpet loom is not beyond the realm of possibility. It may include two, or possibly three, basic types of construction, and these may include unit assemblies and sub-assemblies which can be manufactured in reasonable quantities. These units may then be assembled as required to serve a particular purpose or to suit the manufacturer's own operating conditions. These assemblies could be adaptable to looms of various widths. Lubrication, motors, drive, picking, control equipment, and many other parts could be standardized somewhat along the lines being worked out by the machine-tool builders. The day has passed when it is good practice for the machine manufacturer or the purchaser to confine himself to specialized types of construction with the corresponding high initial and replacement cost. The greater the extent to which the equipment and component parts can be manufactured and not tailored to individual conditions, the greater can we reduce the cost to manufacture and facilitate the replacement of worn parts and repairs.

While this discussion has been confirmed primarily to the construction of looms, it applies to even greater extent in the case of material preparation and spinning equipment. Coupled with the standardization of construction and use, it is all important that the new ideas be coordinated and applied in a practical way to existing processes and with a full appreciation of the human factor. The weaver of the future, possibly, will be far removed from one who can change a shuttle on the fly; will become more familiar with the technical details and the control of a series of interlocking mechanisms. Machines in themselves will be balanced and their movements synchronized, and the complete assembly quite different from the bouncing, loose-jointed, many-pieced loom of the past.

COTTON HELPS BUILD ROADS

Successful development of a method of road building involving use of an open mesh cotton fabric has followed the first demonstration near Columbia, S. C., in 1926. The roads are bituminous-surfaced, sand-clay or top-soil roads, and the use of the cotton fabric membrane aids in holding the surface together and in retarding progressive failures which usually start at the outer edges of the road.

After preliminary grading and brushing away of loose particles, a prime coat of light tar is spread and while this is still sticky the open weave cotton fabric is laid in longitudinally overlapping strips. Over the fabric is spread hot asphaltic oil. This in turn is covered with coarse sand and gravel and rolled with a power roller.

The fabric which has been found suitable weighs 4.61 oz. per square yard. The width is 36 inches. The yarns are 4 ply and there are 7 picks per inch in the filling and 3½ in the warp. The New Uses Section of The Cotton-Textile Institute has done much to promote this use of cotton fabric.

Graduating class at Lowell Textile Institute, Lowell, Mass.

Textile School Commencements, *North and South*

ADDITIONAL textile school commencements have been held since our last issue and those for Georgia Tech, N. C. State and Lowell are reported herewith. Commencement addresses stress the present as a time of opportunity for technically trained men. The industry 15 or 20 years from now may be largely in the hands of today's graduates and they are fortunate in entering the field at a time when real ability is likely to be quickly recognized. Alumni reunion of the Philadelphia Textile School is also recorded in these pages.

Georgia School of Technology

A LARGE class graduated in textiles at the Georgia School of Technology, Atlanta, Ga., June 8. The number of textile graduates from southern textile schools is comparatively large, in spite of the economic difficulties of the last year and a half, and reports indicate that the majority of this year's graduates have already been engaged for employment.

Edward Pearson Warner, editor of *Aviation*, a McGraw-Hill publication, and formerly Assistant Secretary of the Navy for Aeronautics, delivered the commencement address at Georgia Tech. The baccalaureate sermon was preached by Dr. L. O. Bricker, of Atlanta, on Sunday, June 7. A feature of the commencement was the dedication of the Guggenheim Building which houses the newly organized school of aeronautics.

Awards received by textile graduates were, as follows: W. M. Mitchell, Summerville, Ga., the gold medal given by the National Association of Cotton Manufacturers, and J. H. Asbury, Clarkesville, Ga., the gold medal given by the Cotton Manufacturers Association of Georgia, for the best all-round work in the four-year course. C. J. Prewett, Cordova, Ala., received the medal offered by the Textile Operating Executives of Georgia to the honor student in the two-year course.

Graduating in the four-year textile course at Georgia Tech and receiving the Bachelor of Science degree were: J. H. Asbury, Clarkesville, Ga.; G. H. Bruns, Greenville, S. C.; C. H. Dyar, Jr., Adairsville, Ga.; G. Embry, Jr., of Atlanta; M. W. Fletcher, Jackson, Ga.; H. Heyman, West Point, Ga.; W. M. Mitchell, Summerville, Ga.; W. Nightingale, Brunswick, Ga.; P. S. Smith, of Atlanta; E. H. Sullivan, Bremen, Ga.; and A. L. Taylor, Columbus, Ga.

Receiving certificates for completion of the two-year course in textile engineering were: B. P. Albright, A. B. Alexander, Jr., J. A. Byars, E. E. Camp, H. S. Cathey, J. M. Edwards, A. A. Hardeman, W. G. Huguley, Jr., R. McKinney, E. H. Norman, Neham Pansy, C. J. Prewett, M. W. Rogers, Jr., J. D. Sheppard, J. K. Smith, D. S. Waldrop, L. K. Williams and S. H. Williams.

Lowell Textile Institute

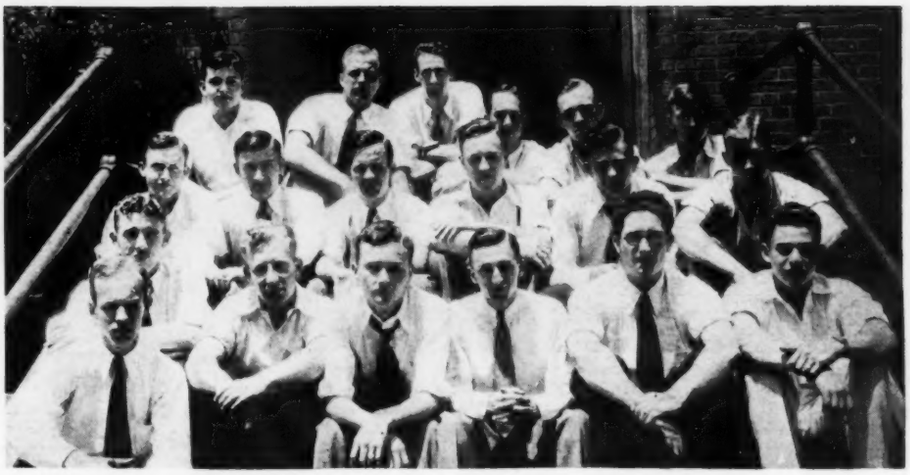
GRADUATION exercises of the Lowell Textile Institute, Lowell, Mass., were held June 9, with 25 students receiving degrees and 4 receiving diplomas. One of the interesting side-lights was that William S. Bradford, who received the degree of Bachelor of Textile Engineering, represents the second generation; his father having received a similar degree in 1906. The line of endeavor in the textile industry extended still farther back in the case of Richard W. Rawlinson whose father and grandfather, both of whom were present, are engaged in the industry. Among the recipients of degrees was one girl, Miss Margaret M. Maher, who had completed the course in textile chemistry.

After the address of welcome by President Charles H. Eames medals and awards were made. The medal of the National Association of Cotton Manufacturers for outstanding scholarship was won by John E. Peary; presentation being made by Russell T. Fisher, secretary of the association. The Louis A. Olney book prizes were awarded as follows: Ralph E. Hale, $20 for his thesis "Effects of Time and Tension on Mercerization;" first and second prizes of $10 and $5 respectively to Raymond L. Mathews and Gerald A. Robillard in second year of the chemistry and textile chemistry course; first and second prizes to Robert J. Thomas and Robert T. Graham in first year; honorable mention to Kenneth E. Leslie and Leon E. Moody. The Textile Color Card Association Scholarship for the student showing greatest progress in color appreciation and application at the end of sophomore year was won by E. L. Colee.

The class fence ring was presented by Gerald F. Quigley, president '31, to Henry S. Sawyer, president '32, following

which principal address was given by David D. Vaughan, professor of social ethics, Boston University, who spoke of the challenge of the new day and urged the graduates to take a broad, social outlook rather than to be motivated entirely by self-interest.

Degrees of Bachelor of Textile Chemistry were awarded to: Edward Joseph Allard, Alfred John Carbone, Francis Harold Casey, Arthur Joseph Danahy, Paul Curran Duggan, Wallace Howe French, Ralph Edgar Hale, Stanley Arundel Hall, Frank Barbour Hosmer, Gerald Anthony Ivers, Julius Jarek, Norman Albin Johnson, Abraham Lifland, Gordon Algeo McAllister, Margaret Mary Maher, John George Parker, Jr., Eric Arthur Peterson, Gerald Francis Quigley and Joseph Max Wallace.



Graduating class of the Textile School of the Georgia School of Technology, Atlanta, Ga.

Degrees of Bachelor of Textile Engineering were awarded to: William Swanton Bradford, Joseph Frederick Burtt, Everton Hascom Loveless, Richard William Rawlinson, Alexander Stewart, Yun-Cheng Wang.

The following diplomas were also awarded: John Joseph Kilmartin in department of cotton manufacture; Charles Wilkes Babb, Jr., and Richard Omer Pero in wool manufacture; John Ervin Peary in textile design.

North Carolina State College

COMMENCEMENT at North Carolina State College was opened by the baccalaureate sermon by Dr. Gould Wickey, executive secretary of the board of education of the United Lutheran Churches of America, Sunday evening, June 7. Many prominent textile mill executives were present for class reunions on Monday, June 8, which was Alumni Day. Following the annual oratorical contest, Monday evening, medals and prizes were awarded.

Henry Hand Rankin, Gastonia, N. C., received the medal given annually by the National Association of Cotton Manufacturers to the member of the graduating class who has shown the highest proficiency in his school work.

The commencement address was delivered Tuesday morning, June 9, by Dr. John J. Tigert, president of the University of Florida. Following his address diplomas were awarded to the graduates, including 24 young men completing the textile courses, as follows:

Bachelor of Science in Textile Manufacturing: M. B. Amos, High Point, N. C.; R. L. Beard, Winston-Salem, N. C.; L. B. Brown, Pineville, N. C.; N. C. Davenport, Rome, Ga.; J. N. Gammon, Griffin, Ga.; J. P. Garrison, Belmont, N. C.; W. W. Greenhalgh, New Britain, Conn.; W. F. Hargrove, Greensboro, N. C.; W. J. Honeycutt, Franklinton, N. C.; C. R. Little, Southside, N. C.; H. C. McKelvey, Pelzer, S. C.; H. H. Rankin, Gastonia, N. C.; C. D. Reames, Roxboro, N. C.; S. G. Riley, Raleigh, N. C.; W. R. Rogers, Oakboro, N. C.; L. F. Sharpe, Hickory, N. C.; J. R. Sherrill, Raleigh, N. C., and F. L. Wilson, Bakersville.

Bachelor of Science in Textile Chemistry and Dyeing: R. A. Gilliam, Gastonia, N. C.; L. F. Haar, Wilmington, N. C.; T. A. Mott, Jr., Hickory, N. C., and Eugene Purcell, Wentworth, N. C.; Bachelor of Science in Weaving and Designing: C. S. Schaub, Winston-Salem, N. C.; Bachelor of Science in Textiles, D. B. Hardin, Terrell, Tex.

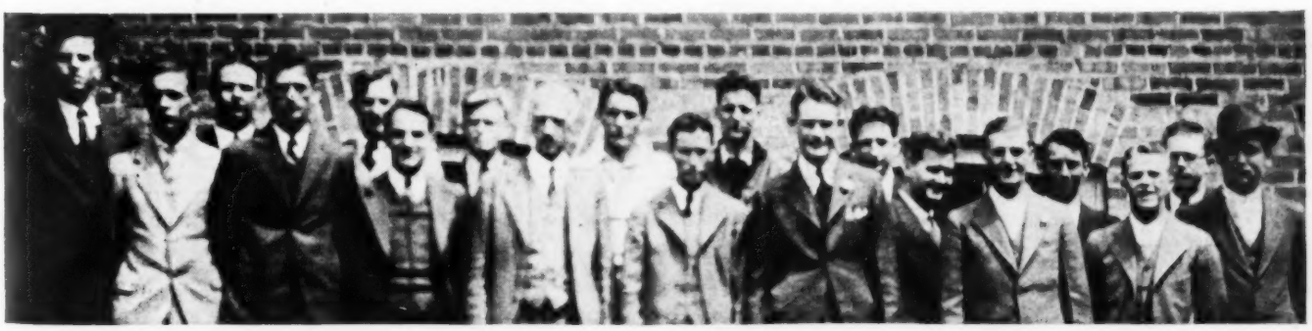
Dr. Thomas Nelson, dean of the textile school, announced that every member of the graduating class has been tendered a position in the textile industry.

Philadelphia Alumni Reunion

THE world is looking for the textile industry to lead it out of this depression as it did out of others in the past. This places a definite responsibility on the leaders of our industry and upon each one of us in it. We must meet this situation with courage.—These were thoughts presented to the Alumni Association of the Philadelphia Textile School at the thirtieth annual meeting of that group, June 5, at the Manufacturers Club, Philadelphia, by Col. Charles F. H. Johnson, president of Botany Worsted Mills, Passaic, N. J.

He told the 150 members present that there were several reasons why textiles would not only pass successfully through the present difficult times, but would be one of the first to emerge from them. Our industry, the Colonel said, lives on its own merits. Textiles do not depend upon exports for prosperity as do the automobile and many other industries.

There is a huge market right in this country for textiles, he stated. To secure his proper share of this business it is



Graduating class of the Textile School of North Carolina State College, Raleigh, N. C. Left to right: H. C. McKelvey, S. G. Riley, Jr., L. F. Sharpe, G. H. McGinn, W. R. Rogers, C. R. Little, J. P. Garrison, Thomas Nelson, Dean of Textile School, J. N. Gammon, L. B. Brown, R. A. Gilliam, N. C. Davenport, F. L. Wilson, J. R. Sherrill, W. W. Greenhalgh, T. A. Mott, Jr., H. H. Rankin, W. J. Honeycutt, M. B. Amos.

Willis Fleisher, treasurer, and Bradley C. Algeo, president, taking it easy at the outing of the Alumni Association of the P.T.S.

necessary for a textile manufacturer to forget "the good old days" and set his house in order under the new régime that we have already entered. As an example the Colonel said that manufacturers should devote more of their time, money and thought to the question of research.

Bradley C. Algeo, who has been head of the Alumni Association for the last 30 years, was reelected to that office at the annual business meeting on Thursday. Other officers chosen were: W. C. Robb, C. E. Firth and B. C. Archer, vice-presidents; Willis Fleisher, treasurer and W. J. Maurer, secretary.

Mr. Algeo announced that he was in receipt of a check for $2,500 from John Crowther, class of 1893 and now head of the Shannock Narrow Fabric Co., Pawtucket, R. I. This donation will be placed in the endowment fund of the association.

Approximately 150 members and friends attended the "Cruise" of the association to the Manufacturers' Country Club, Oreland, Pa., June 5, and enjoyed the golf and baseball events. The base-ball decision was awarded as usual to the married men's team. The score varied according to one's sympathies but Mr. France claimed the correct tally was 18 to 2 in the favor of the married team.

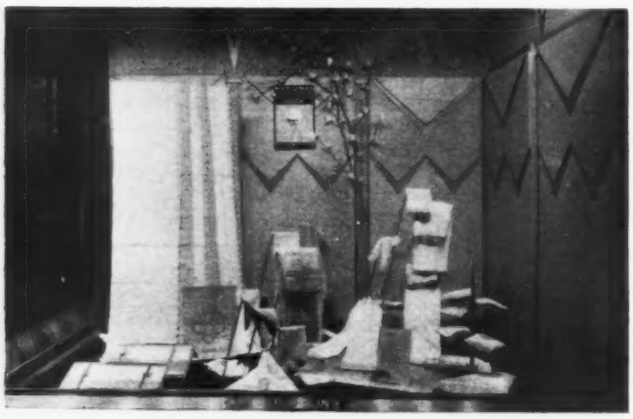
George Kritler was the winner of the association golf match, turning in a score of 94 with a handicap of 18, making a net of 76. The kicker's handicap in golf was won by Harry Orlemann; his score was 122 gross, and 77 net.

In a short talk at the luncheon Mr. France said that while he did not look for really prosperous conditions until about 1933, he believed the worst had already been seen in textiles, and improvement, although gradual, would soon be evident.

Baseball game between married and single men at Philadelphia Textile School Alumni "Cruise," at Oreland, Pa., on June 5.

Success of Cotton Week Spurs Sales Efforts

One of the Fifth Ave. windows of Lord & Taylor



James McCutcheon & Co.'s Fifth Ave. display of cottons

ADVANCE reports received by The Cotton-Textile Institute early this week indicate that National Cotton Week resulted in tremendously increased retail sales. This event was held on a nationwide scale last week, and in the opinion of many of the outstanding merchants, it marks the beginning of a continuous and cumulative sales activity in all lines of cotton fabrics.

Never in the history of the industry have cottons been advertised so vigorously as during National Cotton Week. The helpful cooperation of retail and wholesale merchants in directing the attention of the public in this way to the present values in cotton textiles contributed greatly not only to the success of this particular effort but also to increased retail sales in general.

"While the full benefits of National Cotton Week are yet to be realized," said George A. Sloan, president of The Cotton-Textile Institute, "one of the most encouraging of the immediate results is the expressed intention on the part of merchants to continue indefinitely with the promotion of cotton goods. In a number of instances the department stores are already planning periodical store-wide promotions of cotton items that were so successful last week.

"Department store executives in particular have been unhesitating in declaring that National Cotton Week has directly increased their sales. Accordingly both wholesale and retail merchants are displaying new vigor in amplifying their current merchandising policies."

Reports received by the Institute from retail merchants all over the country showed sales increase from 8.2 to 350%, majority ranging from 30 to 60% over sales for first week in June last year.

Last week a cable was received by President Sloan from John Grey, chairman of joint committee of cotton trade organizations in Manchester, England, offering best wishes for success of cotton week. Mr. Sloan in cabled reply said in part "Continued aggressive merchandising of cotton textiles in England and America should contribute much toward recovery of general business."

What Statistics Are Needed in Textiles?

(Continued from Page 21)

number of customers, their needs, purchasing power and desire. These factors should be studied in terms of their probable effect on textile consumption during the next few years.

Naturally the question which has been in the background throughout this discussion is: "Where will one get the figures?" The usual and efficient procedure is to determine what may be already available. If we consider retail data first, we find that figures on the actual sales of textile products to the ultimate consumer are quite inadequate today.

Prior to the 1929 Census of Distribution no measure existed of the total volume of textile sales to consumers. An index of whether or not retail business this month was better or worse than the same month of last year for certain textile lines has been available for some years in the monthly releases of the Federal Reserve Board. It is practically impossible, however, to get a reliable picture of demand trends from these figures. To begin with there is no basis on which they can be tied into a continuous series. Moreover, being expressed in dollar units, they reflect price changes as well as demand changes. Thus far the published reports on the 1929 Census of Distribution, do not show returns in terms of physical units. In addition, the Census of Distrubution is finding some difficulty in breaking down total retail sales into sales of specific merchandise like men's suits, or women's hosiery. In other words, the Census of Distribution was designed to obtain a broad picture of our national market rather than a "close-up" for a particular commodity.

Manufacturing Data

Moving on from distribution to manufacturing we discover a greater fund of statistical information. Here and there trade groups are collecting certain items on the activity of their membership and from others who care to participate. In other cases the Bureau of Census is serving as a clearing house for industrial statistics. Perhaps most of these series could be characterized as "production" figures. Exceptions, of course, spring to mind immediately as, for instance, the Bureau of Commerce reports on hosiery stocks. But more serious than the question of whether or not some of the figures now being collected conform to the "gauges" here suggested, is the fragmentary, unrelated state in which they are now found—and used. Certainly there is need for a conscious effort to bring together in an orderly fashion the current statistical material which bears on a specific item of textile merchandise.

Manufacturer, distributor, and raw material producer alike are all concerned with what happens at every stage in the conversion and transfer of goods from grower to consumer. Some plan—some order needs to be brought into our textile statistics. We suggest the need of integrated statistics. It is, perhaps, not feasible or desirable to integrate ownership in a vertical fashion in many textile lines. Yet this is no reason why textile groups should be denied some of the benefits which accrue to the integrated organization—for instance, more intimate and more accurate knowledge of both the raw material and the consuming markets. These are to be obtained through the coöperative action of trade groups. The exchange of information among manufacturers or distributors performing a similar function is not enough; interchange should occur among all groups associated in the preparation of a particular good for the market—from grower to retailer.

An Example of "Integrated Statistics"

For an illustration of "integrated statistics," we have outlined in the accompanying chart a possible application to the wool apparel industries. This graph traces the flow of wool goods for apparel purposes from wool grower to the ultimate consumer, suggesting stages at which the "gauges" of new orders, deliveries, and stocks could be used. To reduce the complexity of the illustration, it has been necessary to omit certain trade channels—for instance, the integrated spinner-weaver, and the manufacturing retailer. As the reader will notice, sales at retail are included as one set of "delivery data" along with inter-industry transfers. Naturally a complete program of "integrated statistics" as here outlined for wool apparel would require inter-industry coöperation. It is not suggested as immediately practical, but as a plan toward which the trade groups concerned might build. Surely it would be better to devise a scheme for the orderly exchange of vital information rather than to rely on "grapevine" channels.

The sort of a statistical program then which appears necessary to provide management with effective "tools" for "controlling" production and distribution is undoubtedly one which recognizes the value of "integrated statistics." Although the nature of such statistics may vary from product to product, it is believed that in many textile lines the statistical program might well center around:

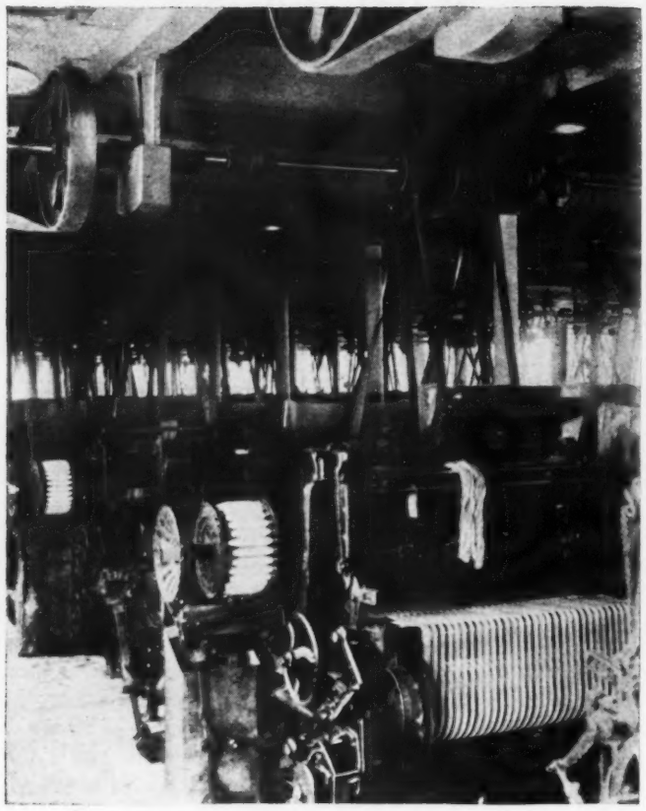
1. *Current "gauges":* at critical stages in the product's flow from "grower" to consumer—
   - Deliveries
   - Stocks
   - New Orders.
2. *Annual surveys:* searching out prospective trend changes in—
   - Raw Material Supply
   - Productive Capacity
   - Consumption.

Interpretation cannot be neglected whatever the scheme of collection. Cold figures returned on a monthly schedule are like raw cotton or raw wool—they must be "processed" to be useful. Interpretations are of two kinds. There is that general task where a statistician puts figures in the form most practical for trade use, along with the general findings deduced therefrom. But more important to the health of an industry is that interpretation which each mill or distributor must make in applying the statistician's findings to the "control" of its own operations.

The Individual-Motor Loom Drive

as Viewed Today

By W. A. Mayor
Industrial Engineering Dept., General Electric Co.



Weave shed before installation of individual-motor drives

WHILE individual drive is not justified in all cases, it is particularly favorable in driving looms for weaving all kinds of fabric. Many looms already in use, which are not too badly worn and which are of suitable design to weave fabrics in current demand, are being changed from belt drive to individual motor drive. Some of the advantages of individual drive of looms are increased production, better quality of product, fewer repairs, lower labor costs, and better working condition.

Increased Production

An increase of production of 3% is a conservative amount to be expected. Some mills have claimed 8% to 11% increase. As a result of uniform speed, a more constant and uniform power gives a steadier and more positive pickage; and elimination of belt troubles results in fewer stoppages for the fixer. Stoppage is confined to an individual loom, unless electric-line trouble should develop. There is less time consumed in regulating the timing and picking motion than is required with belt drives of uneven power and speed.

The percentage of gain will vary somewhat with conditions. For example, with a solid foundation for loom and motor, the conditions are better than in a room where vibration exists. Evenness of speed often allows higher loom speed, and at least the maximum speed obtained by belt drive can be maintained.

Quality of Product

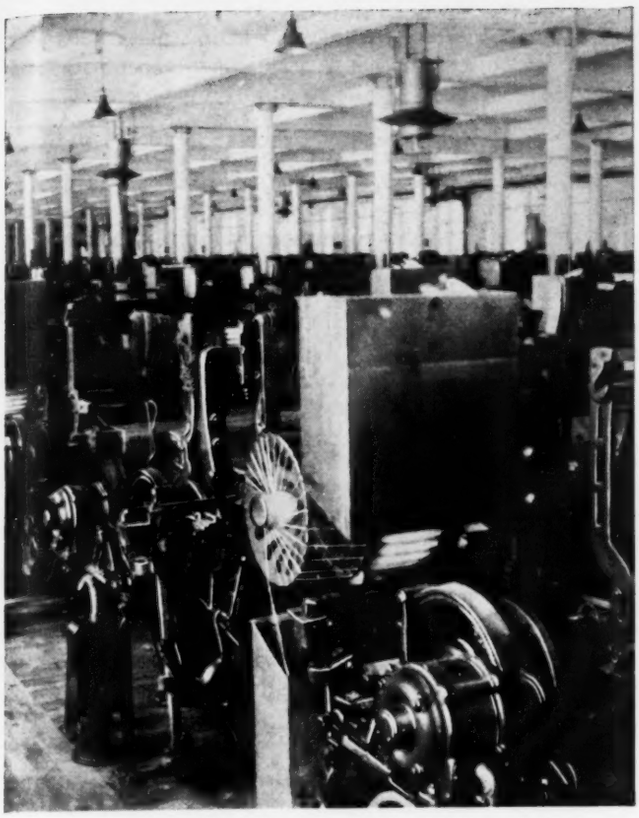
With more uniform picking, less breaking of warp and filling yarn occurs which means less pick-out and fewer thin and thick places. Soiled cloth caused by dirt from belts and hangers is eliminated.

With individual drive there is less breakage of parts effected by rebound this often being caused by non-completion of pick, due to slippage of belt and uneven power. Also there is less wear on shuttles, picker sticks and pickers, and less strain on harness and reed by elimination of belt slippage and uneven power.

Belt-driven looms generally use a belt capable of delivering far greater amount of power than is required, and the operator has at his command a reserve amount of power that is far above anything he will require. Therefore the different mechanisms on looms can be allowed to operate when greatly out of alignment, thereby consuming additional power, and if allowed to remain in this state, do not perform their function as efficiently as when mechanically correct. The greater strain on these parts results in far more breakage; and the wearing parts, such as bearings, cams, etc., wear out and give trouble in less time. Oil is used more freely, with a tendency toward more dirt and general untidiness of the room.

The loomfixer when summoned to make an adjustment of a loom does not take into consideration the power supply, as he knows it is ample; and often a hot bearing is treated to an oil bath in hope that it will eventually cool and give no further trouble, the cause of the overheating being neglected. The loomfixer is generally busy replacing broken or worn-out parts, and repairing broken belts, which in most cases are put back on pulley $\frac{3}{4}$ to $1\frac{1}{2}$ in. shorter, resulting in greater strain on the bearing.

Weather conditions often affect belted loom operation due to stretching and slipping of the belt on damp days and shortening in dry weather. Often the belts are shortened to overcome excess slippage in damp weather, but never lengthened again in dry weather, resulting in excess bearing friction.



The same room after looms were equipped with individual-motor drive

With individual motor drive these difficulties largely disappear. Defects in the different mechanisms are reflected in increased load on the motor. Its protective device, in the form of overload thermal cutout or temperature relay in the switch, will function to disconnect the motor from the line and shut down the loom. Thus the motor and its control device not only serve as an instrument to supply power to the loom but also serve as a governor for proper loom adjustment. The result is more nearly continuous operation at maximum loom efficiency. On account of steadier action and less attention required by the loom fixer, two or four more looms can be handled when individually driven, depending upon the ability of the weaver.

Power Requirements

The power needed to drive looms varies a great deal, and is dependent upon many factors, such as the type of loom, width between swords, loom speed in picks per minute, kind of fabric, and type of harness motion. In case of a box loom, more power is generally required when the picking cams are set for pick-and-pick instead of alternate pick. More power is required if the fabric is made from a coarse filling yarn, requiring a larger bobbin and heavier shuttle. For any particular type of loom and fabric, loom speed is the greatest factor which will affect the power, and this is found to vary almost in proportion to the square of the loom speed.

A study of the horsepower required for some of the principal moving elements of a loom is interesting. Tests made on a Crompton & Knowles heavy worsted loom, 92 in. between swords, 4x4 box, 30 harness capacity, showed the following results:

Power for principal moving elements;
Lay only 0.40 hp., 57% of total
Picking motion 0.15 hp., 21% of total
Shuttle only 0.11 hp., 16% of total
Loom only, less yarn
Speed 105 p.p.m. Power 0.70 hp.
Same loom weaving 11-oz. worsted
Speed 102 p.p.m. Power 0.71 hp.
Same loom weaving 30-oz. worsted.
Speed 101 p.p.m. Power 1 hp.

Tests made on Crompton & Knowles gingham loom 43½ in. between swords, 4x1 box, 2 harness, loom speed 155 p.p.m. show the following results:

Loom only less yarn, 0.515 hp.
Lay only, 0.07 hp., 13.6% of total
Picking motion, 0.05 hp., 11.6% of total
Shuttle and box motion, 0.175 hp., 34% of the total

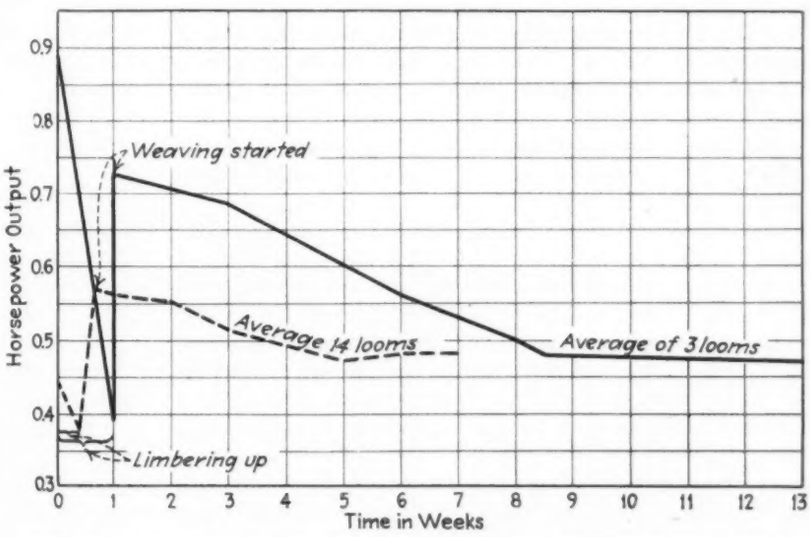
Tests made on a Draper Model K loom 40 in. wide, 1x1 box, Dobby head, 2 harness, loom speed 161 p.p.m. show the following results:

Loom, less yarn, 0.57 hp.
Lay only, 0.095 hp. 16.6% of total
Picking motion, 0.04 hp., 7% of total
Shuttle, 0.13 hp., 22.8% of total
Dobby head and harness, 0.24 hp., 42% of total

New looms always require more power for their breaking-in period of the first six to eight weeks' operation. Results of tests made on a Crompton & Knowles loom are shown below. It is of interest to note from the curves that the cotton loom of more recent design showed less variation in power demand over the breaking-in period and also took less time to assume normal running conditions.

Type of Clutch

Practically all looms today are equipped with a friction clutch, and the power is often affected by improper adjustment. Loom manufacturers are giving some attention to this condition, and one manufacturer has developed a new type of clutch which will permit proper adjustment to carry the loom *(continued on page 65)*



Solid line indicates test on Crompton & Knowles, 4x1, 30 harness, box looms; dotted line indicates tests on Crompton & Knowles Cotton King looms.

Comparison of power required during breaking-in period of two types of looms

Solvent Detergents *Gain Favor in Fulling and Scouring*

By George A. Messenger

◆ *Increased use of solvent detergents in fulling and scouring has followed a better understanding of their true function in these processes. The accompanying article describing the properties of solvents, their use in wet-finishing, and methods for determining their detergent value, is abstracted from a paper delivered by George A. Messenger, of Watson Park Co., Boston, at the annual reunion of the Lowell Textile Institute Alumni, held on May 16, at Lowell, Mass.*

USE of solvents by the wool manufacturer has been rapidly increasing, until today we find products with some solvent content in nearly all of the progressive mills. While there are a few manufacturers who resort to these products only when in serious trouble, a much larger majority have adopted them for use in their regular procedure of wet finishing. Use of solvents in the cleansing of woolen and worsted fabrics is due to the desire to deal more thoroughly with the unsaponifiable portions of wool lubricants present.

Since a great deal of the actual scouring of a fabric is done in the fulling mill, the introduction of solvents with soaps must be considered here as well as in the washer. It sometimes is argued that the small amounts of solvents introduced either at the fulling mill or washer cannot dissolve a worth-while amount of mineral oil. That is absolutely right; and it cannot be imagined that 2 or 3 lb. of solvent will exercise much dissolving action on a set of goods perhaps containing 15 lb. of mineral oil. However, that amount of solvent can, and does, exercise a more potent action; namely, that of a reduction of surface tension.

Removal of dirt from textile fibers or fabrics in theory and practice involves the principles of molecular physics, but most particularly the nature of actions at surfaces. Better understanding of colloidal action materially aids the manufacturer, in that it explains the behavior and reactions of material in the wet-finishing process.

Scouring Process

The scouring process has as its function the transfer of dirt from the fabric to the scouring liquor, this latter being a complex medium, carrying dissolved, suspended, or emulsified materials. Four chief factors are involved in scouring: (1) solution, (2) emulsification, (3) saponification, and (4) mechanical action.

While water may be classed as the greatest solvent, it is interesting to note that its surface tension against air measured in dynes per centimeter is comparatively high. Water has a surface tension of 73 to 81; carbon tetrachloride, 27; chloroform, 31; alcohol, 25; and ether, 17.6. Soap solutions lower the surface tension of pure water. Everyone familiar with the scouring of woolens has noticed that cloth pieces running in soap open out as fully as the machine permits, while in the washing off stage they bunch into rope form. It is now quite generally known, and can be readily demonstrated by simple laboratory tests, that certain solvents lower the surface tension of soap solutions.

Solvents Available

There is an ever-increasing list of solvents available to the textile manufacturer. Some of the older include carbon tetrachloride; di-, tri-, and per-chloroethylene; tetra- and penta-chloroethane; alcohol; benzol; and cresylic acid. Later came cyclohexanol, hydrogenated naphthalene, and the alkaline salts of beta-tetralin sulfonic acid. One of the latest to be introduced is triethanolamine, of which much has been written. At a reduced cost this product may develop into one of the most useful in the soap industry. Most of these solvents are offered today under their chemical names, and also under trade names and in combination with sulfonated or saponified oils.

Combinations of solvents and soluble oils, when offered by scrupulous manufacturers, represent well-balanced products generally recommended as assistants to soap. They necessarily contain considerable moisture and a fatty-acid content sufficient to act as a carrier for the solvent. If sold as an assistant to soap in scouring, it is a gross injustice to assay these materials on a soap basis. Many of the above-mentioned solvents are directly saponifiable in the presence of fats and caustic lyes; and once combined are almost impossible to analyze, either qualitatively or quantitatively. Others of these solvents are isolated only by careful steam distillation, so that when an evaporating dish of such material is weighed, placed in a drying oven, reweighed, and the difference tabulated as water, it is neither a correct analysis nor a boon to the manufacturer of the product.

Detergent Value

Generally speaking, the fairest and most efficient way to determine these values is to replace a portion of the soap being used with the solvent product. Full and scour a set of goods with the combination, noting carefully the behavior in the fulling mill and washer, and finally make an ether extraction for grease or oil and an alcohol extraction for soap left in the goods. A comparison with cloth scoured in the regular manner will show how efficiently the solvent has acted.

For making comparative tests of competitive products the actual analysis of such samples is usually of little

Solvents find increasing use in wet finishing

interest to me. The actual detergent value of 1 lb. of one product as compared to 1 lb. of another is of vital importance. Since it is impractical to use a whole or even a portion of a cut of cloth for each determination, and since hand-scouring tests are inaccurate, it is necessary to resort to other means.

Data Gathered in Tests

Through the courtesy of the Engineering Dept., of James Hunter Co., who furnished data, we have constructed a model rope or string washer, which enables us to duplicate plant conditions. The test in this machine gives information regarding the following points: (1) Rapidity with which the detergent attacks the dirt; (2) How soon the lather starts to build up; (3) At what period the lather breaks down, if any; (4) the pH value of the rinsing liquor during certain intervals; (5) Amounts of soap either alkaline or neutral left in at various intervals; and (6) The amount of grease, oil, and soap left in the fabric after scouring.

Scouring Re-Worked Stock

Although the use of caustic soda in scouring of woolens has never been considered good practice, during the heavyweight season of 1928 it so happened that the writer met many manufacturers who reluctantly admitted that they were using various amounts of caustic soda in their fulling soaps. They excused themselves by saying that the re-worked stock they were buying was so heavily oiled with poor grades of stock lubricant, it was impossible to start these goods in the fulling mill without a booster.

When caustic soda was used in scouring, it was necessary to allow a fairly wide margin in the dyehouse so that normally fast colors that did let down under this abuse would be somewhere near shade. Manufacturers experiencing this difficulty who showed a disposition to experiment proved to themselves that solvents added to their regular fulling soap would replace the caustic soda, start the fulling, and preserve the original color and tensile strength of the fiber and fabric.

The manufacturer of piece-dyed goods who has not had tar to contend with this past season, at least knows what a problem it has presented to the less fortunate. With tar, are grouped pitch, asphaltum, asphaltum paints, and lead or linseed-oil paints. As long as the present marking system exists, this condition will occur in varying degrees; and with the increasing use of the power clipper this extravagant and needless custom each year becomes a greater menace. As diligent as the sorters have been, a certain amount of pitch has appeared in the finished fabric—not only as specks, but often as smears and smooches after passing through the press.

Manufacturers who have never credited the value of solvents in wet finishing tried added amounts of soap and alkali without marked success. They then attempted spotting at the perch, which proved prohibitive in cost, and gave a tie-up in production.

Removing Tar

There are on the market at present a few products which are safe to use and which are efficient in removing tar. The application of these vary according to the fabric. The problem on cloth fulled 40 min. or longer is less difficult, in that solvents may be introduced directly in the mill. On the so-called open-faced fabrics so popular this past season, chungos and crepes, requiring little or no fulling, the problem of depitching has been more complicated. In some cases it has been necessary to wet out the cuts in a solution, allow to lie several hours, and then scour as usual. The cost for removing tar has been most elastic, depending on the nature of the fabric, the wet finishing process, and the amount and nature of the pitch present. It ranges, perhaps, from ¼ to 6½c. per yd.

There are now a few wool scourers who are efficiently removing tar from wool by solvent-emersion processes. The cost is said to be about 7 or 7½c. per lb. higher than for the regular scour. Further, the condition of the wool is not improved by such harsh treatment. There is now under development a scouring operation using special machinery, but bringing the stock out in fine condition, which should not cost over 3½c. per lb.

Experiments in Cutting Washer Time

Another investigation now under way which is of interest is the use of solvents for freeing a fabric in the washer quickly of soap. It is hoped to be able on heavy fabrics, normally requiring 2½ hr. to rinse, to add after the first half hour of rinsing a small amount of solvent, run 15 min. and entirely free the cloth of soap in another half-hour rinse, thus cutting the washer time nearly in half.

▸ Organization Meeting of Southeastern Economic Council

The Southeastern Economic Council, an organization composed of representatives from the states of Virginia, North Caroline, Tennessee, South Carolina, Georgia, Alabama and Florida, was organized on a permanent basis at a meeting held in Atlanta, Ga., June 5. Frank Page, vice-president of the Wachovia Bank & Trust Co., Raleigh, N. C., and former chairman of the North Carolina State Highway Commission, was elected president of the new organization.

W. D. Anderson, Sr., president, Bibb Mfg. Co., Macon, Ga., was elected industrial vice-president, while David R. Coker, Hartsville, S. C., nationally known breeder of long staple cotton, was named agricultural vice-president. Walter C. Taylor, secretary of the Southern Textile Association, Charlotte, N. C., was elected secretary.

Vice-presidents from each State in the area were elected, as follows: Dr. Bradford Knapp, president of Alabama Polytechnic Institute, Auburn, Ala.; former Governor Harry Flood Byrd, Winchester, Va.; J. E. S. Thorpe, Bryson City, N. C.; J. Frank Porter, Columbia, Tenn.; R. G. Rhett, president of People State Bank of South Carolina, Charleston, S. C.; Bona Allen, Jr., Buford, Ga., shoe manufacturer; and H. N. Rodenbaugh, St. Augustine, Fla., railroad executive.

Plans are to hold an economic conference annually "for the joint consideration and solution of economic problems common to these States and their agricultural, commercial and industrial interests."

W. D. Anderson, Sr., president, Bibb Mfg. Co., Macon, Ga., elected industrial vice-president of Southeastern Economic Council

▸ Fall Styles Discussed at Fashion Guild Luncheon

Advance fashion news of interest to the stylist was disclosed by four prominent speakers at a luncheon held by the Fashion Guild, at Sherry's, New York, last week. The speakers were Miss Kathleen Howard, fashion editor of *Harper's Bazaar*, Mrs. Margaret Y. Todd, of Forstman & Huffmann, Miss Margaret Case of *Vogue* and Miss Marion Stephenson, of Cheney Bros. Speaking of the materials for next fall, Mrs. Todd said that knowledge of fabric will be more necessary than it has been in many seasons because of the treatment of molded figure with revealing lines.

Miss Stephenson said:

"Looking to fall, Cheney's have based their line on the importance of color and color combinations resulting in the ensembling of a costume or wardrobe; the combination of fabrics in the costume and ensemble; and the importance of texture in achieving the various nuances in the silhouette for the season.

"The impetus given to colors in combination by the French Colonial Exposition is influencing creators of all kinds, resulting in rich colors and sharp accents." Miss Stephenson urged American fashionists to "stand pat for the mode of color combinations," saying it is correct, but must have direction.

▸ Army to Buy Quarter of Million Yards of Cotton Khaki

Bids will be opened at the Philadelphia Quartermaster Depot, U. S. Army, Monday, June 29, at 10 a.m., Eastern Standard Time, for 251,360 yd. cotton uniform cloth, khaki, 36½ inches wide.

Nightwork Elimination

in Wool Industry already nearly 65% approved

BALLOTS on the principle of eliminating night work for women and minors have been received by the Wool Institute from mills equipped with about 65% of the total looms in the industry. Executives controlling approximately 95% of these looms have voted in the affirmative.

Considering the comparatively short time the ballots have been out, this response is regarded as favorable, for the principle involved is of considerable importance and every executive is not in a position to commit himself on such a question before learning the views of his associates.

The ballots are coming in from every section of the industry, and will later be tabulated so that the attitude of millmen in the different sections can be shown.

▸ Summer Textile Courses at M.I.T.

For the third successive year Massachusetts Institute of Technology is offering summer courses in textile research and technology for the benefit of interested persons in the industry and particularly for students and members of the staffs of textile schools and of universities offering instruction in textiles.

Because of the success of the previous summer sessions the work for the coming year has been amplified and rearranged. A course will be offered beginning June 16 and extending to July 7 in textile technical analysis, which will consist of 30 lectures. The subject matter to be covered is the physical testing of fiber, yarn, and fabric, with particular emphasis placed upon the variable factors which influence such tests and the methods to be employed for their elimination, control or correction.

Supplementing this lecture work, a laboratory course of 90 hours will be given, beginning June 16 and continuing to July 28. A new course in textile microscopy has been developed by Professor Schwarz and will be presented during this summer session. The work consists of 30 lectures and 45 hours of laboratory and begins July 28, continuing through Sept. 9.

For those students who have already taken the lecture work in textile microscopy, whether in the regular session or during previous summer sessions, arrangement may be made to take 90 hours of laboratory work—omitting the lectures. This course will be concerned entirely with textile miscroscopy; will begin June 16 and will continue to July 28.

All of the above courses are offered for credit toward either a Bachelor's or Master's degree. The size of the laboratory sections will be strictly limited and for this reason it will be desirable to make early application. For purposes of reference the subjects are classified as follows:

Textile Laboratory (2.871): June 16-July 28, 1-4:00 p.m., daily except Saturday. Tuition $60.

Textile Technical Analysis (2.875): June 16-July 7, 9:15-11:15 a.m., daily except Saturday. Tuition $30.

Textile Microscopy (2.877): July 29-September 9, 9:15-10:15 a.m., daily except Saturday, and 1-3:30 p.m. Monday, Wednesday and Friday. Tuition $50.

▸ Summer Courses for Mill Men at N. C. College

The Textile School of North Carolina State College, Raleigh, N. C., has announced that courses in cotton grading, yarn manufacture, weaving, designing, and fabric analysis, planned especially for practical mill men, will be given at the State College Summer School, June 15 to July 24.

The course in cotton classing is designed to enable manufacturers and

producers to become familiar with grades and staple so that they may handle their cotton more efficiently. This course will be conducted by licensed cotton classers.

The courses in yarn manufacture have been divided into picking, carding and spinning. They have been arranged to meet the needs of young men working in cotton mills. Lectures will be supplemented with practical work on the machines.

In the weaving and designing department plain, drop box, and fancy loom fixing, elementary designing and cloth analysis, as well as the designing of special fabrics, such as lenos and double cloths, will be taught. Starting up warps and fixing looms for fine and fancy fabrics will be demonstrated in connection with the operation of the looms. Lectures will be given to coordinate the theoretical with the practical methods.

▸ Sees Turn in Cotton Prices as at Hand

Possibility of a healthy uptrend in raw cotton prices in the near future is suggested by Homer W. Orvis, in charge of the cotton department of Orvis Bro. & Co., who has just completed a 3,800 mile trip through the cotton growing area. Beginning with attendance at the Texas Cotton Association's convention, in Dallas, March 19, Mr. Orvis motored throughout the cotton region, talked with planters and manufacturers, large and small, and stopped for several days in Charlotte, N. C., on his return trip.

"Pessimism in 1931, in common with optimism in 1929, is being carried too far," said Mr. Orvis in Charlotte last week. "Markets, whether produce, money or stock, always have been the meeting place of extremists, and whereas the boom years apparently brought out all the optimists in the country, the nation is in the hands of rabid pessimists today.

"With a 30% cut in fertilizer used in the eastern sector, and 8 to 10% general cut in acreage planted, a wet May, cool nights, and with the possibility of a wet July, resumption of boll weevil ravages, and an increase in consumption, the outlook for a profitable return on the cotton actually brought to market is far from as gloomy as the professional pessimists would have it," Mr. Orvis continued.

"In twelve counties in Mississippi, for example, fertilizer has been cut 20% and acreage has been cut 60%, in a section that had produced 900,000 bales in 1930.

"My guess, which is merely a guess, but based on a careful study of the facts that I have been able to observe in my recent tour, is that we may hope for an increase of 10% in consumption, a decrease of 10% in acreage planted, and a decrease of 10% in the production of those acres due to natural impediments. In my opinion, the feeling of pessimism has been carried too far."

Where Cotton Spindles and Looms Are Located

Cotton Goods—Number and Capacity of Spinning Mills, Weaving Mills, and Mills Which do Both Spinning and Weaving, by Sections and by States: 1929, 1927, and 1919, from Biennial Census of Manufactures, Released by Department of Commerce

Section and State	Census year	Spinning and weaving mills: Number of establishments	Spinning and weaving mills: Number	Spinning and weaving mills: Number of spindles	Spinning and weaving mills: Number of looms	Spinning mills: Number	Spinning mills: Capacity in spindles	Weaving mills: Number	Weaving mills: Capacity in looms	Establishments having no spindles or looms
United States	1929	1,282	653	26,612,209	636,594	341	6,397,114	207	22,357	81
	1927	1,347	665	28,553,892	699,257	387	6,747,003	220	24,789	75
	1919	1,288	632	27,050,718	673,017	409	7,280,639	181	19,152	66
Cotton-growing States	1929	821	473	14,202,591	350,250	293	4,288,422	42	6,153	13
	1927	834	466	13,662,719	337,400	328	4,210,859	31	4,573	9
	1919	714	386	11,260,013	283,714	313	3,440,900	10	1,931	5
New England States	1929	259	159	11,655,738	268,404	38	1,684,048	36	5,113	26
	1927	302	175	14,000,901	334,301	46	2,081,080	52	7,259	29
	1919	346	214	14,827,162	369,036	66	3,101,412	34	4,676	32
Other States	1929	202	21	753,880	17,940	10	424,644	129	11,091	42
	1927	211	24	890,272	18,556	13	455,064	137	12,957	37
	1919	228	32	963,543	20,267	30	738,327	137	12,545	29
Alabama	1929	83	54	1,360,764	32,367	26	428,560	2	1,096	1
	1927	68	37	1,071,242	25,731	31	408,515	...	.....	...
	1919	58	30	845,087	19,738	27	271,102	1	159	...
Arkansas	1929	5	3	27,978	601	1	11,240	...	.....	1
	1927	3	1	9,800	203	1	10,228	...	.....	1
	1919	1	1	7,000	133	...	.....	...	.....	...
California	1929	8	3	49,848	337	...	.....	2	50	3
	1927	4	3	52,048	580	...	.....	...	.....	1
	1919	1	1	35,000	509	...	.....	...	.....	...
Connecticut	1929	33	13	785,804	18,902	8	277,604	8	1,434	4
	1927	35	17	887,736	20,754	7	225,536	8	1,282	3
	1919	47	27	1,060,424	24,710	11	284,330	5	829	4
Delaware	1929	1	...	.....	.....	...	.....	1	13	..
	1927	1	...	.....	.....	...	.....	1	13	..
	1919	1	...	.....	.....	...	.....	1	13	..
Georgia	1929	137	94	2,543,456	58,704	36	579,618	5	328	2
	1927	139	96	2,407,712	55,622	39	552,870	2	185	2
	1919	132	82	1,911,290	46,258	47	577,058	2	60	1
Illinois	1929	12	1	25,232	607	2	34,660	4	185	5
	1927	11	1	25,232	600	2	34,840	2	127	6
	1919	7	1	33,168	600	2	29,352	...	.....	4
Indiana	1929	3	3	70,704	1,812	...	.....	...	.....	..
	1927	3	3	70,704	1,812	...	.....	...	.....	..
	1919	4	4	86,704	2,110	...	.....	...	.....	..
Kentucky	1929	6	1	49,504	1,376	2	21,976	2	94	1
	1927	4	1	49,504	1,376	2	19,696	1	68	..
	1919	6	1	49,504	1,350	3	39,332	1	6	1
Louisiana	1929	2	2	81,780	2,428	...	.....	...	.....	..
	1927	3	2	81,780	2,430	...	.....	...	.....	..
	1919	3	2	86,684	2,018	1	5,000	...	.....	..
Maine	1929	15	11	924,338	23,743	2	34,756	2	60	..
	1927	17	12	1,072,332	27,809	2	34,756	3	76	..
	1919	14	13	1,087,223	28,822	1	6,808	...	.....	..
Maryland	1929	9	4	74,040	980	...	.....	5	201	..
	1927	8	4	74,088	1,009	...	.....	4	143	..
	1919	14	6	117,154	1,421	...	.....	7	1,106	1
Massachusetts	1929	135	88	6,855,078	155,388	21	863,808	15	1,518	11
	1927	163	97	8,748,032	203,377	28	1,240,460	22	2,012	16
	1919	191	114	9,302,859	223,980	39	2,135,242	17	1,399	21
Michigan	1929	9	...	.....	.....	...	.....	...	.....	9
	1927	9	1	15,000	68	...	.....	1	7	7
	1919	3	1	15,910	42	...	.....	...	.....	2
Mississippi	1929	10	8	117,416	3,392	1	5,584	1	85	..
	1927	14	12	166,464	4,580	1	5,584	1	82	..
	1919	15	11	137,764	3,883	3	33,776	...	.....	1
Missouri	1929	2	1	28,864	530	...	.....	...	.....	..
	1927	2	1	28,864	539	...	.....	...	.....	..
	1919	1	1	28,864	730	...	.....	...	.....	..
New Hampshire	1929	18	15	1,368,502	28,075	...	.....	...	.....	3
	1927	17	13	1,370,353	33,813	1	16,644	...	.....	3
	1919	16	13	1,326,598	39,747	1	16,644	...	.....	2
New Jersey	1929	29	4	54,684	2,160	3	328,828	21	1,267	1
	1927	25	2	51,576	1,779	4	347,708	19	1,947	
	1919	33	5	87,685	2,123	4	361,848	21	2,142	3
New York	1929	32	6	459,688	10,363	4	59,256	8	650	14
	1927	35	8	558,716	11,288	5	70,536	11	980	11
	1919	37	6	509,812	11,029	11	231,806	10	1,010	10
North Carolina	1929	351	136	3,331,663	83,718	193	2,733,448	20	3,342	2
	1927	374	142	3,370,187	84,788	212	2,716,810	18	3,304	2
	1919	311	107	2,525,504	70,874	199	2,136,648	4	664	1
Ohio	1929	6	...	.....	.....	...	.....	2	7	4
	1927	7	1	10,080	19	...	.....	3	35	3
	1919	5	1	15,910	42	...	.....	1	6	3
Oklahoma	1929	2	2	30,912	558	...	.....	...	.....	..
	1927	2	2	30,912	558	...	.....	...	.....	..
	1919	3	3	69,532	2,018	1	1,900	85	8,679	5
Pennsylvania	1929	94	4	84,876	1,981	2	1,980	95	9,671	6
	1927	107	8	97,200	2,900	11	111,596	95	8,153	4
	1919	118	29	1,605,112	39,658	7	507,880	11	2,101	8
Rhode Island	1929	55	32	1,777,640	45,192	8	563,684	19	2,889	7
	1927	66	43	1,908,834	48,473	14	658,388	12	2,448	5
	1919	74	130	5,355,674	132,614	21	248,236	8	752	..
South Carolina	1929	159	129	5,157,322	128,063	27	278,756	7	554	..
	1927	163	120	4,750,507	115,890	22	236,330	2	1,042	1
	1919	145	8	315,692	8,335	11	244,512	1	320	..
Tennessee	1929	20	9	332,308	8,269	11	187,132	1	320	..
	1927	21	7	206,771	5,471	9	125,958	...	.....	2
	1919	16	23	230,480	5,710	2	15,248	...	.....	..
Texas	1929	27	22	225,296	5,638	4	31,268	...	.....	..
	1927	26	14	121,358	3,535	1	10,096	...	.....	..
	1919	15	1	.....	.....	...	.....	1	60	..
Utah	1929	1	3	116,904	2,638	...	.....	...	.....	..
Vermont	1927	3	4	144,808	3,356	...	.....	...	.....	..
	1919	4	4	141,224	3,304	...	.....	1	86	..
Virginia	1929	9	8	678,560	19,580	...	.....	1	60	1
	1927	11	9	679,280	19,032	1	5,600	...	.....	
	1919	10	9	554,680	13,325	...	.....	3	89	4
Wisconsin	1929	7	...	.....	.....	...	.....	1	34	4
	1927	5	...	.....	.....	2	3,725	2	68	2
	1919	6	...	.....	.....	...	.....	...	.....	...

Questions... *and* Answers

Making Cotton Yarn Mildew-Proof

Technical Editor:

Will you recommend a formula for making a solution which will satisfactorily mildew-proof cotton yarn? We require a solution that can be used on a wet twister. *(7582)*

For treating wet-twisted yarn, a water solution of a self-emulsifying oil in the proportion of 1 part oil to 12 parts water is often employed. In order to make this solution mildew proof, such chemicals as cresylic acid or phenol can be added. These have a pronounced odor. They are used in the proportions of about 1¼ oz. to 12 qt. of emulsion.

If the odor is objectionable, or if the operation can be made a little more expensive, sodium benzoate or sodium silico-fluoride can be used. These are salts without odor and will not evaporate. They are used in the proportion of about 1½ oz. to each 12 qt. of emulsion. The salts should be dissolved in water before adding the oil. The solution must be alkaline if sodium benzoate is used, but this is not necessary when using the fluoride compound.

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Yarns for Print Cloths and Combed and Carded Lawns

Technical Editor:

We do not seem to locate any information regarding the sizes of warp and filling yarns used in the construction of print cloths, combed lawns, and carded lawns, and therefore are enclosing herewith a list of constructions in tabulated form and would appreciate very much your advising us where we can get this information, or if you have it at hand please fill out the information on the sheet and return it to us. In giving the number of the warp and filling yarns, will you also give the information as to whether they are singles or two ply. *(7579)*

The yarns used in the weaving of print cloths, percales, etc., are usually about equal in count in the warp and filling. Not all mills use the same warp count to produce the same yards per pound in the cloth. In the weaving of print cloths, the yarns are usually of an even number or as near so as it is possible to have them and fill the weight requirements. From 28s warp up to 40s filling are the counts of the yarn used, but in most all cases the warp is either 30s or 40s for carded yarns. It is not practical to spin a warp yarn any finer than 50s with carded stock on account of the strain imposed on the warp during the weaving; but it is possible to use a finer filling than 40s when using carded stock, because there is not the strain and friction imposed on the filling. The filling, having a much softer twist than the warp, has a greater filling capacity. Therefore fine filling, when woven into cloth, will have the same full appearance as the warp, because the fibers are soft and loose spun.

When figuring yarns that are to be used in print cloths, sheetings, and percales — where the cloth construction, width, and yards per pound are given— it is usual to figure the average number of the yarn that would have to be used to give a certain yards per pound in the woven cloth. It is rarely that mills use an intermediate count of warp yarn. The number for the medium sizes run from 30s to 40s in the warp, and this system of numbering the warp yarns applies to the yarns that go into the weaving of carded cloth. It is not easy to change the warp count after the warps are made up and slashed, but it is easy to change the filling counts. It is customary to use any of the warp sizes given above and to figure a filling size that will give the required yards per pound.

To determine the size of filling required to give a certain yards per pound —the sley, pick, width, and the yards per pound being given—proceed as follows: Divide the yards per pound into 100 yd. The results will be the weight of the warp and filling in 100 yd. of cloth. The counts of the warp being known, figure the weight of the warp in 100 yd. of cloth and subtract the answer from the weight of the warp and filling. The remainder will be the weight of the filling in 100 yd. of cloth. Next multiply the picks per inch by the width of the cloth in the reed. This will give the length of the filling in one yard, which, multiplied by 100, will give the length of filling in 100 yd. Divide the length of the filling in 100 yd. by 840, the cotton standard, times the weight of the filling, and the result will be the counts of the filling to be used to give the required yards per pound in the woven cloth.

YARNS USED IN GRAY-GOODS CONSTRUCTION

Width	Count	Weight	Warp	Filling
Print Cloths (Carded)				
38½	60x48	6.25	40s	30s
38½	64x56	5.50	40s	28s
38½	64x60	5.35	30s	38s
39	68x72	4.75	30s	35s
39	72x76	4.25	30s	30s
39	80x80	4.00	32s	35s
39	80x88	5.00	40s	37s
39	96x100	5.00 Combed	50s	53s
39	96x100	4.15 Combed	40s	45s
Combed Lawns				
40	84x80	11.00	60s	100s
40	72x68	9.50	60s	85s
40	76x72	9.00	60s	85s
40	80x80	9.00	60s	105s
40	88x80	8.50	60s	105s
40	96x92	7.50	60s	100s
40	96x100	7.00	60s	90s
Carded Lawns				
40	72x60	9.00	50s	50s
40	72x68	6.00	40s	52s
40	80x76	6.00	50s	65s

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Lubricating Spun Rayon

Technical Editor:

We are making a spun yarn out of rayon waste and find that it is too dry to run without some type of a solution. We should appreciate it greatly if you would tell us what we should use. *(7601)*

In making a spun-rayon yarn from rayon waste, use of watery stock emulsions must be avoided, as water causes the rayon waste to disintegrate and become broken. A good type of lubricant to apply to rayon waste before picking and spinning, is a thin, fluid oil, such as olive oil. The oil is applied to the rayon waste in its straight or neat form, using from 5 to 7½% of oil based on the weight of the rayon waste. The oil is sprayed on the waste before it is picked or garnetted. If the yarn is made on the worsted system, the straight or neat oil is also applied during the gilling and drawing operations.

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Heddles per Inch for Taffeta or Piqué

Technical Editor:

As a steady reader of your great paper, I am taking the liberty of putting the following question to you: What, in your experience, is the maximum number of heddles per inch in the individual harness for taffeta or piqué? *(7563)*

A fairly good piqué weave is one which has eight shafts—two weaving taffeta; and the other six, the broken weave. On the taffeta weave, the individual shafts have 28 heddles per inch entered single ply, while the other six

shafts are entered two ply with 14 heddles each per inch. Another entirely different weave, but still classed as a piqué, is a six-shaft job with 27 heddles per inch on each shaft, the first weave making a heavy rib effect warpwise, and the second leaving a faint pin stripe warpwise.

The maximum number of heddles per inch, therefore, is but a secondary matter. The amount can be placed in work on heavier cloth if a heavier weave is desired. The flat steel heddles take up a great deal of space, but this has been overcome by having the shaft hold a double row of heddles on two separate ribbons. This type of shaft allows heavy weaves with plenty of heddle space and prevents overcrowding the ribbons. If a heavy weave is demanded, the shaft with double ribbons has its advantages. The French or wire heddle, being lighter than the steel heddle, will allow more heddles per inch; but the steel heddles are more popular.

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Conditioning Rayon for Winding and Quilling

Technical Editor:

I wish to ask your advice on the conditioning of rayon for best results in winding and quilling. I am informed that some mills soak their rayon in nets and extract it. I consider this a good idea, but understand that other mills are able to get good results without doing this. I shall appreciate any information you are able to give me as to the best method of soaking. (7599)

Two methods of oiling rayon are in common use. In one a commercial spraying system is employed, the skeins being placed on a special table and subjected to a uniform vapor spray for a predetermined length of time. In the second method, a layer of skeins is placed on a table and treated by dipping a whisk brook in the oil and then moving the brush in rapid but even jerks over the skeins. Both systems are said to have advantages, and are sometimes employed in the same mill; in neither case is the oil extracted from the skeins after impregnation.

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Streakiness in Dyed Wool

Technical Editor:

We are enclosing a sample of a top which has been dyed in the ball. You will note the streaky nature of this top, which was re-gilled after dyeing. We should be pleased if you would let us know what causes this streakiness. (7585)

We have examined the sample of slubbing, and it is our opinion that the trouble is in the application of the dyestuffs used to produce the shade. It appears to us that red, yellow, and blue colors were used in your formula, and that they did not work evenly together. It is also evident that a large amount of acid has been used in the dyebath, as the sample shows an acid reaction to blue litmus paper.

It is quite possible that you are forcing on your colors too quickly. If we knew what group of colors you are using, we could probably help you by giving a dyeing method which would work better than the one you now employ. If you are using colors of the Polar type, we suggest applying a small amount of acetic acid at the start. From our examination, it appears that fast acid colors have been used for dyeing, but before we can give you any definite information, we should need to know just what colors were employed.

In order to overcome the uneven tops it will be necessary to run them through the gilling machine ten or twelve times to even up the streaks. It may be possible to overcome the streakiness by redyeing after stripping with ammonia. This treatment, however, does not improve the fiber. With a condition as bad as this we suggest gilling the tops to improve the evenness, giving them a weak ammonia bath to correct the acid condition, and dyeing to a darker shade.

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Knitted Fabric with Twill Effect

Technical Editor:

We are enclosing herewith a small swatch of material. Will you be good enough to let us know what equipment this was knitted on, and the composition of the fabric, if you please? We appreciate the fact that the swatch is small, but we trust that you will be able to assist us. (7588)

The sample submitted was knitted on a spring-needle machine of the burr-wheel type, using a special plugged-wheel feed for introducing the backing yarn. The plugged wheels are open for two needles and plugged for the third. The burr wheels of the second and third feeds are plugged at the second and third needles respectively. This gives the twill effect on the cotton side of the fabric. We think this machine had either 18 or 20 needles per inch.

The yarn sizes have been found; but as only short lengths were available, they are approximate. The loss due to napping might be estimated, but the figures here do not attempt to compensate for that loss. The yarn lengths and weights were:

Yarn	Length (inches)	Weight (grams)	Counts
Cotton.....	206.5	.083	37.3
Worsted.....	54.0	.187	6.5

Probably the cotton yarn was about 36s and the worsted yarn for backing was between 6s and 6.5s.

As the sample stands, it is about 71% worsted and 29% cotton. As there is a loss of worsted in napping and no loss of cotton, probably this was 75% worsted when knitted.

Inquiries should give the fullest information possible; and if damaged material is involved, a sample should be sent. We do not give consideration to anonymous inquiries and do not undertake routine analysis of yarn or fabric, or investigation involving unusual expense.

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Spots on Silk Hosiery

Technical Editor:

We are enclosing samples of silk hosiery which are badly stained or spotted. The lot from which these were taken was boiled off with oil and trisodium phosphate; washed twice hot; once cold; then dyed with 12 gram Solatine Black, 28 gram Triazol Red 8B, 34 gram Supramine Black BR, 70 gram Silk Yellow G, 70 gram Neutral Red WH, 90 gram Direct Yellow 3G, and 4 lb. Sulfonated Oil; run 15 min.; 10 lb. glauber salt added; run 30 min.; sampled; washed twice after dyeing; and extracted. Can you give us any information as to what causes the spots on the sample? These spots show up only when the goods lie overnight. (7589)

An examination of the hosiery reveals blotches of several colors which at first glance appear to have been caused by splashing of dyestuffs on the goods. These spots, however, are not dye stains, and cannot be prevented in dyeing the hosiery. They are mildew spots which probably were caused by keeping the goods too long in a damp condition in the knitting department.

This trouble is not unusual where goods have been kept too long in a damp state in the storage room. Mildewed goods cannot be dyed evenly, no matter how skillful the dyer is. If mildew is fresh, it is possible to correct it by stripping stockings and redyeing them. In most cases, however, the damage is permanent, and the goods must be sold as seconds.

In some cases goods become mildewed when kept too long in a damp state before boarding. In this event, if the mildew has just started, the stain can be removed by washing. More often, not even redyeing will correct the damage.

We suggest that to prevent recurrence of this defect you first inspect carefully that part of the knitting department where legs are stored before delivery to the footers and where gray stock is stored. If signs of mildew are discovered in either of these places, measures can then be taken to prevent storage of the goods in a damp state before they reach the dyehouse. Likewise a check should be made to see how long dyed goods are being held before boarding. We have no criticism to make of the dyestuffs employed or your method of dyeing.

Overseers' Round-Table

THIS department offers a new subject for discussion each week and gives readers' comments on problems introduced during previous weeks. The subject which was opened four weeks ago is closed this week and a summary of contributed ideas is given on opposite page

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Qualifications of an Overseer

Editor, Overseers' Round-Table:

No COMPANY can afford to hire a man as an overseer who has not a knowledge of the work in his department above the average worker. Furthermore, an overseer should be a good organizer, with a system of efficiency and ability to handle help of every type and creed. In short, he should be well educated, trained and cultured, in order to be able to stand above the average in the department he represents.

The above are, in my opinion, the qualifications required of an overseer. P. EGGENBERGER.

Private Offices

Editor, Overseers' Round-Table:

I AM heartily in favor of giving the overseer a private office. Take, for example, a large mill weaving fancies where there are several different numbers of yarn, several colors, and where patterns are being changed constantly as the warps run out. There will certainly be problems to be worked out.

The carder has to be making changes all along and I am sure he can find the answer better in a private office than by walking around, staring at the ceiling or a machine, and being constantly interrupted in his calculations. The spinner also has a great deal of calculating to do. Of course, the weaver usually has a designer to analyze the fabric and give the pick, sley, etc., but the overseer is responsible for the success of the weave room and when a man is considering numbers of yarn, colors, pick and sley, yards per lb., etc., he certainly needs to be where he will not be interrupted. H. B. BECKNELL.

Settling the Responsibility for Testing Materials

Editor, Overseers' Round-Table:

I BELIEVE that practically all testing should be done by someone other than the overseer in whose department the experiment is being conducted. I have worked in a mill where I was the so called "young lad" who did the testing and I have also worked as overseer and had the young man come into by department to run experiments.

We are all human and are inclined to make an experiment prove some preconceived idea, and especially so if we are the one making the experiment for our own department. Certainly there should be cooperation between the overseer and the one making the test to the extent that it is given a fair trial under normal conditions, but I do not believe the overseer should have any influence on the results of the experiment.

I quite often run experiments in my department that do

Modern Machinery Br

"DO YOU mind, Mr. Chase, if I raise a question for discussion this time?" said Tex, as the group settled down for the weekly conference.

"Certainly not, Tex," Chase replied, "that's what we are here for."

"Well," Tex went on, "what is the right thing to do in a case like this? I've settled it in my own way so I'm not begging for help, but I'm not easy in my mind and I want to hear what the gang think. You all know that those model X machines we got last month get out about 20% more production per operator than the ones we scrapped. We have the same amount of work to do so that means I had to let four women go. Among the help I had a couple of new hands who hadn't caught on so well, so there was no question about them, but I also had two old women who had been with the concern 20 years each and they were getting slow. They were faithful, but they made some bad work. I also had two girls I took on last winter who were clever and easily the best operatives in the room. As it happened I kept the two girls and let the old hands go. I was lucky enough to place them in the inspection department after a couple of weeks, but I didn't know that at the time of the lay-off."

"Now," Tex continued, "what is right? As an overseer I must get the maximum production at the minimum cost, and that means keeping only the most efficient help regardless of loyalty or sentiment. Still, I like to think that the company recognizes my own 22 years of service and won't turn me out in the street as soon as my second hand really knows his stuff; and my job is no more to me than theirs are to the two old women. What is the answer?"

"The answer," said Bill, "is always troublesome and a lot of care must be used, but I think you were wrong. If the old hands were just getting a little slow they were not holding up your department much and they were just what you needed to steady down that crowd of flappers you have been working in lately. The old hands are slow, but steady. They are on time in the morning and they keep on going 'till quitting time. I believe in keeping old

Brings a Problem

hands as long as they are able to do anything like passable work, partly because of sentiment, but mostly for the steadiness they give my department."

"I think Tex was right," Joe spoke up. "We pay the going rate of wages, and maybe a shade more to attract the best help we can get. We pass out the envelopes every week and that ends the transaction: so much work, so much pay. Get the best help you can. Keeping them steady is what you are there for, otherwise the super could double up on a couple of departments. I figure to hold my job because I can do it better than my second hand, John. When the experience I've had no longer balances the slowing of my head and hands, John will have my job. Then I'll be dropped with no hard feelings, for I've sold my services and received my pay. Treat help the same way."

"This is a serious problem," Pete joined in, "and each case should be given careful thought, but I might suggest that, if there are any of the help who won't cooperate and who complain that they don't like to work on the new machines, and all that sort of thing, such help should be let go first. Frequently there are enough of them to settle the problem."

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How would *you* choose the workers you would let go in the above case?

Overseers and others are invited to discuss this and other questions brought up in the super's talks. Letters accepted and published will be paid for without regard to length. Brevity is desirable.

not check with the data obtained by the one doing the testing for the superintendent, but I will also say that it is difficult for me to keep from being prejudiced toward some of the experiments. We should bear in mind that it is always very important that we enter into the task of performing an experiment with an open mind. C. F. P.

Editor, Overseers' Round-Table:

THERE IS a tendency, and some think it advisable, to have the laboratory or testing department do all the testing. I do not fully agree with this as there are periods when the laboratory force does not make tests frequently enough, whereas, when the overseer, assistant overseer, or more probably section man, can make the tests he will discover something that can be altered before a batch of material becomes so processed that other means will be necessary to make the correction.

As an example: In sizing roving the laboratory will get a sizing at 8 a.m. and report at 10 and a change will be made. Perhaps it is raining. Another sizing will be made at 1:30 p.m., a report made at 3 and a change made. These tests will not reveal conditions and, in the case of individual department testing, more accurate data can be secured throughout the day.

Still, in the main, I approve of the idea that a double check be made. Let the laboratory make tests also and give a general report to the superintendent.

Of course, as Pete says, department tests could possibly be "steered," but if an overseer is that crooked or incompetent, and cares no more for his position than that, he shouldn't have the position. F. L. B.

On Textile School Students

Editor, Overseers' Round-Table:

BILL IS all wet on textile school students. What good is it for a man to spend money sending his son to a textile school, or any other school, if no one is going to help him out during the summer months? Another thing, where is an overseer who would want to work for a superintendent who is a textile school graduate and has never had any practical experience?

Personally, I know a few textile school students who worked in a mill during their summer vacations and every one returned to the same mill after receiving his diploma. I think an overseer should teach the school boy everything he can while he is working him, as it will only be a matter of time until the overseer will be working for him.

T. A. S.

Editor, Overseers' Round-Table:

IT COSTS money to train anyone so they are worth something to the company, and I do not think it is wise to employ a textile school student just for the summer months, unless he contemplates working for the company after he has finished school.

I do not wish to be hard, and I am willing to assist a student in any way, but I am not willing to put the company to an extra expense just for the sake of training a student for different machines. Even after a student has finished school he should be started at the bottom, and if he has the "stuff" in him he will climb. P. A. WYNN,
Overseer Carding.

◆

Summary of Discussion on Testing

The debate ended with about 55% of the contributions in favor of having the testing done by someone not connected with the particular department. Some of the points favoring this plan were that it was absolutely impartial and free from even the most unconscious "steering," and that it was possible to have an expert by this method. Those opposed to the plan stated that there was frequently too much delay in receiving reports from a laboratory, that the overseer got the "feel" of things by doing his own testing, and that no good overseer would attempt to make the tests fit his preconceived ideas.

NEWS about MEN

✦ W. E. HETHERINGTON has resigned as president of the Alexander Smith & Sons Carpet Co., Yonkers, N. Y., and it is rumored that he will be succeeded by THOMAS EWING.

✦ R. LEE MAHALEY, president and treasurer, Diamond Cotton Mills Co., Inc., Salisbury, N. C., was elected city manager of Salisbury, June 5.

✦ GEORGE J. SWIFT resigned as president and director of the Springfield (Tenn.) Woolen Mills, Inc., and John F. Jervis was chosen to succeed him at a special meeting of the board of directors. E. B. Boyd was made director, first vice-president and secretary, and Arch Cash was elected director, second vice-president and treasurer. The new officers, Messrs. Jervis, Boyd and Cash, will all reside in Springfield and have active charge of all manufacturing and selling, it was stated. The following compose the board of directors of Springfield Woolen Mills: John J. Jervis, E. B. Boyd, Arch Cash, H. E. Pritchard, F. A. Carter, J. A. Wallace, J. W. Durrett and H. L. Dulin.

✦ CASON J. CALLAWAY, president of the Callaway Mills, LaGrange, Ga., has been elected a trustee of Mercer University, in Macon.

✦ W. J. VEREEN, textile executive and banker of Moultrie, Ga., was elected president of the Georgia division of the National Association for the Increased Use of Cotton, at the organization meeting at the State Capitol in Atlanta, June 3.

✦ H. A. MILLIS, textile official of High Point, N. C., was recently elected to the board of trustees of the High Point College, succeeding R. M. Cox, Winston-Salem, N. C.

✦ J. CHOICE EVINS, president of the Clifton Mfg. Co., was the principal speaker at the luncheon of the Spartanburg Rotary Club, and devoted his address to a resume of the growth and expansion of the textile industry throughout South Carolina and the southeast.

✦ L. K. BRIN has been named president of the Milwaukee Knitting Co., to succeed his father-in-law, the late J. B. SATTLER. Other officers elected at a meeting June 1 are MRS. J. B. SATTLER, vice-president and E. WALLACE, secretary-treasurer. Directors include the officers and MRS. L. K. BRIN and SIG RUSCHA.

✦ J. E. MCLOUGHLIN, head of the McLoughlin Textile Co., Utica, N. Y., was chosen vice-president of Associated Industries, Inc., at the annual meeting held in Buffalo.

✦ NED O'CONNOR, of the Viscose Co., was elected president of the New England Peddlers Gambol, at the second gathering held at New Bedford, Mass., June 7. R. H. FISHER, of the DuPont Co. was elected vice-president and H. R. BARKER, of the Industrial Co., Fall River, named secretary-treasurer. ROYAL LITTLE, of the Franklin Co., was elected chairman of the entertainment committee.

✦ CAPT. ELLIOTT WHITE SPRINGS, vice-president and treasurer, Fort Mill (S. C.) Mfg. Co., has been elected to membership on the New York Cotton Exchange to fill the vacancy caused by the death of his father, COL. LEROY SPRINGS.

R. Grady Rankin, who was elected secretary and treasurer of Textiles, Inc., as reported in last week's issue.

✦ JOHN F. TINSLEY, vice-president and general manager of the Crompton & Knowles Loom Works, Worcester, Mass., received the degree of doctor of science at the 165th commencement exercises at Rutgers University, New Brunswick, N. J., on June 5. Mr. Tinsley is an alumnus of Rutgers, where he was graduated from the electrical engineering course in the class of 1900.

✦ JOSEPH I. GASKILL, secretary, West Boylston Mfg. Co., Easthampton, Mass., has succeeded CARL M. MOORE as agent and assistant treasurer of the West Boylston Mfg. Co. of Alabama, Montgomery, Ala.

✦ ROBERT W. ZUILL, treasurer of the Cornell Mills, Fall River, Mass., has resigned and JOHN E. DUFFY has been elected his successor. The plant is in liquidation and Mr. Zuill desired to be relieved in order to assume another position. Mr. Duffy has been bookkeeper for the corporation for a number of years.

✦ CHARLES A. ROOT, treasurer of the Uxbridge (Mass.) Worsted Co., Inc., spoke on "The Evolution of Manufacturing Industry" before the Rotary Club of Uxbridge, of which he is an honorary member, on June 2.

✦ F. NATHANIEL PERKINS, wool merchant, Boston, Mass., has just received the 1931 wool clip from the flock of sheep belonging to John D. Rockefeller.

✦ HARLEY O. HOUGHTON of the office force of Draper Corp., Hopedale, Mass., has concluded his services after 30 years of work and will leave shortly for Duluth, Minn., where he will make his home.

✦ LUTHER HODGES, connected with the Carolina Cotton & Woolen Mills, Spray, N. C., has sailed for Vienna, Austria, to attend the International Rotary Convention. He was accompanied by Mrs. Hodges.

✦ NATHAN WEBBER, student at Philadelphia Textile School in third year chemistry, dyeing and printing has been awarded the TEXTILE WORLD prize for attaining the highest rating for the year's work in the day class. JOSEPH COREA evening school student in chemistry and dyeing has been awarded the TEXTILE WORLD prize for attaining highest rating in the full three-year course.

✦ A. W. GOODWIN, formerly employed by Butler-Prentice & Co., has become associated with the gray goods selling organization of the Manville Jenckes Co., and will specialize in fancy curtain goods and other types of fabric fancies.

✦ J. W. BOOTH, formerly agent of the Atlantic Mills of Olneyville (R. I.) is now general agent of the Paton Mfg. Co. of Sherbrooke, Quebec, Canada, manufacturer of woolen and worsted goods.

✦ C. M. KREITNER, purchasing agent for the Old Hickory, Tenn., plants of the Du Pont Rayon and Cellophane Companies, will be transferred to the main offices at Buffalo, N. Y., succeeding COURTNEY JONES. Mr. Jones goes to Wilmington, Del., where he will be in charge of purchasing for the E. I. duPont de Nemours Co.

✦ JOHN W. CRAWFORD has resigned his position with the G. H. Tilton & Son Co., Tilton, N. H., to become associated with the Sulloway Mills in Franklin. His work will be of a supervisory nature in the manufacturing department. Mr. Crawford was superintendent of the G. H. Tilton & Son hosiery plant when it was closed and the business consolidated in Laconia. He went to the latter city with the firm.

✦ T. W. PRESTWICK, has resigned as general manager of the Paton Mfg. Co., Sherbrooke, Que., Can., textile manufacturer, to accept a position with the American Woolen Co., in New York, as divisional manager in charge of the company's mills in Lawrence, Mass. Prior to coming to Canada, Mr. Prestwick spent many years in the service of the American Woolen Co.

✦ H. B. MCCORMAC, general manager of the Virginia Woolen Co., Winchester, Va., and former president of the Virginia Manufacturers Association, has been elected president of the Union Bank of Winchester.

✦ L. F. ANCOTT is now superintendent of the Scottsboro (Ala.) Hosiery Mills, Inc.

✦ HARDA CROWE has accepted the position of superintendent of the Anniston (Ala.) Yarn Mills.

✦ THEODOR F. HIRSCH, formerly with the Holeproof Hosiery Co., Milwaukee, Wis.,

has accepted a position as superintendent for the Paducah (Ky.) Hosiery Mills, Inc.

✦ THOMAS WARBURTON has resigned as head of the yarn department of the Warwick Mills of West Warwick, R. I., to become superintendent of the Amoskeag Mfg. Co., of Manchester, N. H. His place is being filled by THOMAS NAYLOR, formerly with the Clark Thread Co., Newark, N. J.

✦ THOMAS FRANCIS MCDONALD, designer for the Bell Co., Worcester, Mass., and HELEN IRENE ANDERSON, of the same city, were married in St. John's Church, Clinton, Mass., on June 6.

✦ GEORGE W. MELDRUM, superintendent of the dyeing department of the Bigelow-Sanford Carpet Co., Clinton, Mass., for the last 15 years, is to retire on July 1, after a service of 54 years in that department. He is 74 years old.

✦ A. D. MELOT, of Allentown, Pa., has become superintendent of Johnson Silk Mills, Inc., Lexington, N. C.

✦ O. N. NORRIS is now superintendent of the Jacobs & Spivey Hosiery Mills, Bridgeport, Ala., succeeding PAUL SMITH.

✦ GEORGE CHASE has resigned as loom-fixer at the Eagle Lake Mill of the Jefferson (Mass.) Mfg. Co.

H. H. Rankin, awarded the N.A.C.M. medal at Textile School of North Carolina State College for outstanding excellence in his courses

T. I. Dashiell, who received medal awarded by N.A.C.M. at Clemson College, S. C.

Charles Prewett, Georgia Institute of Technology received medal offered by Textile Operating Executives of Georgia

✦ O. R. JOHNSON, head of the weaving department of the Dunean Mills, Greenville, S. C., has resigned.

✦ WILLIAM F. KNIGHT, an overseer for the Charlton Woolen Co., Charlton City, Mass., has resigned to accept a similar position with the Arlington Mills, Lawrence, Mass.

✦ HENRY LAPOINTE, former overseer of weaving for the Lund Textile Co., Inc., Fisherville, Mass., has moved to Three Rivers, Mass., where he holds a similar position at the Palmer mill of the Otis Co.

✦ R. B. MOODY is now head of the night spinning department of the A. M. Smyre Mfg. Co. plant No. 2, Gastonia, N. C.

Obituary

Col. Francis H. Fries

Colonel Francis H. Fries, president, Washington Mills, Winston-Salem and Mayodan, N. C., and Fries, Va., and president of the Wachovia Bank & Trust Co., of Winston-Salem, died at his home in that city June 5 following a two weeks' illness with influenza and complications. Born at Salem, N. C., Feb. 1, 1855, he received his early education in the local schools and later was graduated from Davidson College.

He entered the cotton mills of F. & H. Fries where he worked from the bottom to the superintendency, a position which he held from 1878 to 1887. In that year he undertook the building of the Roanoke & Southern Railway, a project that was completed in 1891 at a cost of $2,081,000, and which in 1893 was consolidated with the Norfolk & Western railroad. In 1893 he organized the Wachovia Loan & Trust Co., which was merged in 1911 with the Wachovia National Bank to form the Wachovia Bank & Trust Co., now the largest banking institution in North Carolina. In 1896 Colonel Fries established the Mayo Mills at Mayodan, N. C., and three years later he built the Avalon Mills, on the Mayo River, near Mayodan. In 1902 he was instrumental in the organization of the Washington Mills, at Fries, Va., which absorbed the Mayo Mills.

At the time of his death, Colonel Fries was president of Washington Mills and the Indera Mills, of Winston-Salem, vice-president of Oakdale Cotton Mills, Jamestown, N. C., president of the Brown & Williamson Tobacco Co., Louisville, Ky., and Winston-Salem, and a director of Arista Mills Co., of Winston-Salem. He is survived by one brother, Harry E. Fries, of Winston-Salem, and one daughter, Mrs. Richard F. Willingham, also of Winston-Salem. Funeral services were held Saturday afternoon from the Home Moravian Church and interment was in the Moravian Cemetery at Winston-Salem.

John H. Giles

John H. Giles of the Giles Dyeing Machinery Co., Frankford, Philadelphia, Pa., died suddenly at his home in Germantown on June 8. He was born in Rockport, Mass., on March 25, 1856. In his youth he went to Amsterdam, N. Y., and became associated with his uncle, John MacFarlan, in the knitting business. He later became a partner in the firm then known as MacFarlan & Co. Mr. Giles was associated with this concern until the death of Mr. MacFarlan. He was also associated with the Atlas Knitting Co., of Amsterdam, and was its president at the time of his death. He was one of the original stockholders of the Klauder-Weldon Dyeing Machine Co. and for years was its treasurer. From 1908 until 1913 Mr. Giles was general manager of the Klauder-Weldon Co. and in 1913 he left that concern to go into business for himself in the manufacture of dyeing machines, in which business he was engaged at the time of his death.

W. A. Erwin, Jr.

W. A. Erwin, Jr., assistant secretary-treasurer, The Erwin Cotton Mills Co., West Durham, N. C., died at Hot Springs, Ark., June 5 from double pneumonia. He was 34 years of age and for several years had been an executive of the large mill organization headed by his father. He was graduated from the University of North Carolina in 1916, and served in the army during the World War. He is survived by his parents, Mr. and Mrs. W. A. Erwin, Sr., and three sisters; his widow and one small son, William A. Erwin, III, of Durham, N. C.

J. E. Moore

J. E. Moore, for more than 30 years connected with textile mills at Rocky Mount, N. C., died suddenly May 23.

Ernest A. Palmer

Ernest A. Palmer, age 68 years, secretary-treasurer of the Arkwright Finishing Co., Providence, R. I., died at his home in Seekonk, Mass., on June 3. He had been in failing health for several years. Mr. Palmer was born in Lebanon, N. H. He founded the Palmer Tracing Cloth Co., which later was merged with the Arkwright Finishing Co.

Ernest Littlewood

Ernest Littlewood, assistant treasurer of the recently organized Fisher Mfg. Co., Inc., Fisherville, Mass., died in Boston, on May 31, following an operation a week previously. He was 55 year's old.

Textile Calendar

Philadelphia Textile Manufacturers' Association, Fifth Annual Outing, Manufacturers' Country Club, Oreland, Pa., June 17, 1931.

The Cotton Manufacturers Association of North Carolina, Twenty-fifth Annual Convention, Sedgefield Inn, Greensboro, N. C., June 19 to 20, 1931.

Committee D-13, American Society for Testing Materials, Annual Meeting, Hotel Stevens, Chicago, June 23, 1931.

Chicago Yarn Men's Circle, Annual Golf Tournament, Nippersink Lodge, Genoa City, Wis., June 24 and 25, 1931.

Carolina Yarn Association, Second Annual Golf Tournament and Outing. (Place to be announced later.) Sept. 18 and 19, 1931.

American Association of Textile Chemists and Colorists, Annual Meeting, Boston, Mass., Dec. 4 and 5, 1931.

Southern Textile Exposition, Textile Hall, Greenville, S. C., Oct. 17 to 22, 1932

NEWS about MILLS

Cotton

Powdrell & Alexander, Inc., Danielson, Conn., curtain manufacturers, have foundations in for a one-story mill unit, 50x120 ft., at Wellfleet, Mass. W. B. Brennan is engineer and S. J. Dalby is in charge of construction, work being done by separate contracts.

Southern Mfg. Co., Athens, Ga. Sale will be undertaken privately by the trustees appointed for this concern. At a public auction sale held on May 26, no bids were received.

The Trion (Ga.) Co., headed by B. D. Riegel, of New York, is adding two stories to its present plant in order to accommodate new machinery that will be installed. It is reported that some departments of the Trion plant are being operated at night in order to take care of increase in business.

Callaway Mills, Inc., LaGrange, Ga., have let contract for the construction of 11 new stores in three sections of southwest LaGrange and the remodeling of a twelfth as the first step in a proposed community improvement program of the Callaway Mills, Inc. Contract for the eleven stores was awarded to the Newnan Lumber Co. at a figure understood to be $25,000. The stores will vary between 20 and 25 ft. in width and will average 60 ft. in depth, of brick construction.

York Mfg. Co., Saco, Me., the most recent addition to the New England Industries, Inc., group, is installing modern machinery and equipment permitting the manufacture of fine combinations of white, plain and fancy goods. The plant was reopened last June under the direction of the New England Industries group with 200 employed and this number has now been increased to 600. About two-thirds of the new machinery is installed and running, reflecting a weekly payroll of approximately $11,000. By next fall the management hopes to have 1,000 workers on the payroll.

Grant Yarn Co., Fitchburg, Mass., property on Daniels St., that city, is likely to be taken over by a new $50,000 corporation, headed by a group of European men, for the manufacture of suit cases.

Rankle Cotton Products Co., Inc., 1428 Rivard St., Detroit, Mich., recently organized with a capital of $10,000, to operate a cotton converting mill for production of wiping cloths, etc., will be headed by Fred J. Rankle, 13725 LaSalle St., Detroit. S. Robert Wisck will be an official of the new company.

Royall Cotton Mills, Inc., Wake Forest, N. C., were placed in a receivership June 6 by a court order signed by Judge W. C. Harris, Raleigh, N. C. Don P. Johnston, president of the company, was named receiver.

Standard Terry Mills, Souderton, Pa., have been organized with a capital of $70,000, to take over and succeed local company of same name with mill for production of cotton specialties. Officials include J. Herman Rosenberger, John K. and Arthur K. Landes, all of Souderton. Last noted has been elected treasurer.

**Indicates previous mention of project.*

Riverside & Dan River Cotton Mills, Inc., Danville, Va., have reduced their operating schedule to a four-day week basis, replacing a five and one-half day week, and will hold to the new schedule for some weeks to come. The plant is giving employment to about 1,600 persons. The Schoolfield Mills of the company will not be affected by the change, and will continue on a five and one-half day week until further notice.

Canadian Cottons, Ltd., Milltown, N. B., Can., are adjusting 200 looms to fill silk orders, and new machinery is being installed to prepare the silk for the looms. The mill has been working on rush orders for shirting in recent weeks, with the plant working at the rate of five days weekly.

Wool

Alameda (Calif.) Rug Works have awarded mason contract to A. Hallert, Oakland, Calif., for two-story addition to mill on Everett St., to cost about $16,000, and will proceed with superstruction at once. J. A. Osterdock is company engineer in charge of construction.

Fabyan Woolen Co., Stafford Springs, Conn., has moved its offices and business operations to Old Mystic, Conn.

***Channing Smith Textile Corp.,** Cherry Valley, Mass. The entire holdings of this bankrupt concern, comprising three separate mills, machinery, 17 mill dwellings, 57 acres of unimproved land and inventory, will be sold at public auction on the premises on June 17 and 18, at 10 a.m. (D. S. T.), each day, by order of the trustee in bankruptcy, Joseph Talamo, Worcester, Mass., attorney. Samuel T. Freeman & Co., Boston, are the auctioneers.

Arlington Mills, Lawrence, Mass., are running several divisions on a capacity day and night basis, with full working force, and expect to continue on that schedule for some weeks to come.

U. S. Bunting Co., Lowell, Mass., is proceeding with superstructure for a new one-story addition on Crosby St., 85x160 ft., and will push unit to early completion.

Bigelow-Sanford Carpet Co., Amsterdam, N. Y., has sold property to F. E. Mazur, according to a deed filed with the county clerk.

Adelphia Worsted Mills, Philadelphia, Pa., are installing six new automatic worsted looms and will install more later.

***Branch River Wool Combing Co.,** Woonsocket, R. I., has awarded two subcontracts for its new four-story mill unit, for which general award was made recently to Temple & Crane, Inc., 80 Federal St., Boston, Mass., covering sprinkler equipment for fire protection to Grinnell Co., Providence, R. I., and for electric light and power wiring and service work to Electric Maintenance & Engineering Works, Providence. Structure will cost about $100,000 with equipment.

Sydney Worsted Co., Woonsocket, R. I., has taken out a permit for a one-story addition to dye-house on Allen St., for which general contract has been awarded to the Pelletier Construction Co., Woonsocket.

Knit

Wolverine Knitting Mills, Bay City, Mich., have work under way on a new addition to mill and plan to occupy at an early date. General contract recently was let to the H. C. Weber Construction Co., Bay City.

Amsterdam (N. Y.) Textiles is a new concern sponsored by prominent knit goods men who have taken a lease of the A. V. Morris & Sons knitting mill for production of diversified lines. It is expected to be in full operation soon.

Van Raalte Co., Saratoga Springs, N. Y., plans to reopen its weaving department soon in conjunction with the remainder of its plant.

Princeton Rayons, Inc., 150 Madison Ave., New York, are concluding the purchase of the mill of the **Belding-Heminway Silk Co.,** Watertown, Conn., and will take over the property at an early date. Purchasing company will remodel and equip for a new branch.

Oliver Knitting Co., Inc., Philadelphia, Pa., has closed down its plant at Wyoming Ave. & B. St. for an indefinite period.

Penfe Hosiery Co., Philadelphia, Pa., Mills No. 1 and 2 are operating again after a shutdown of several months. Mill No. 1 is working day and night while Mill No. 2 is on a 48-hr. week.

Logan Hosiery Co., Philadelphia, Pa., which for a time was owned by U. S. Silk Hosiery Mills, Inc., now in a receivership, has been taken over by Eugene P. Bachmann, president of Fidelity Knitting Mills. The Logan plant will be operated by a separate corporation as a unit of the Fidelity Knitting Mills, it is stated by Mr. Bachmann, who several weeks ago purchased two footers at the auction of full-fashioned machines which were under lease with the U. S. Hosiery Mills, of which Harry West is president. With these machines and those in the Logan plant, the new owners will have 26 machines of 42- and 45-gauge. The Logan for a time was known as **James Harlan Mills,** operated by Mr. West, after it had been taken

over in a financial settlement by a Philadelphia silk throwing company.

Real Silk Hosiery Mills of Pennsylvania, Inc., Philadelphia, Pa., have work under way on dismantling machinery at their mill on West Allegheny Ave., and will make early shipment of equipment to their branch plant at Dalton, Ga. The Philadelphia plant will remain idle for an indefinite time, and property is expected to be placed on the market.

Magic Silk Hosiery Mills, Seattle, Wash., have incorporated with $2,500 capital stock. Papers were filed at Olympia, Wash., May 28. The incorporators are: Jacob I. Lewis, Harry Lewis, Albert Lachman and Herman Cartun.

Brampton (Ont., Can.) Knitting Mills are receiving tenders for construction of a $12,000 addition to plant. The building is to be two stories, 30x80 ft., brick and steel construction.

Harris Knitting Mills, Ltd., Montreal, Que., Can., have commenced operations at 4060 St. Lawrence St. The firm will concentrate on the manufacture of infants' fancy knit goods, Polka sets, Teddy Bear, Jersey, and bathing suits.

Richmond Hosiery, Ltd., 339 Richmond St., London, Ont., Can., is receiving tenders until June 30 for erection of a $10,000 addition to plant. Plans call for one story, 35x65 ft., brick construction.

**Indicates previous mention of project.*

Silk

***Corn Spinning Co.,** Willimantic, Conn., has incorporated to manufacture silks and other fabrics with a capital of $50,000. The incorporators are: Max Stein, 494 East 25th St., Paterson, N. J.; Charles Marantz, 871 East 24th St., Brooklyn, N. Y.; and Nathan Stein, Whiting St., Willimantic. The company is operating a local plant.

***Japan Raw & Thrown Silk Co.,** with offices at 136 Washington Street, Paterson, N. J., has been incorporated, with an authorized capital stock of $125,000, divided into 1,250 shares of $100 par value each. Henry Sauer is head of the company and its statutory agent. Other incorporators include: Jacob Greenbaum, treasurer, and Kasriel Migdal, secretary and vice-president, each holding 10 shares. For the present the firm will have its product thrown by commission throwsters.

White Haven (Pa.) Silk Co. has been chartered with a capital of $250,000 to take over and operate company of same name with mills at White Haven and other points in Eastern Pennsylvania. The charter of the new company also provides for the production of rayon products. The incorporators include Orsola, Rudolph J., Herman T., Aloysius W., Emmett and James C. Magagna, all of White Haven. Rudolph J. Magagna has been elected treasurer.

Blackstone Plush Mills, Inc., Pawtucket, R. I., recently organized with a capital of $100,000 to operate a local mill, will be represented by John A. Warren, 110 Walnut St., Watertown, Mass., one of the principal incorporators. Other incorporators include Henry Warren and Robert W. Cohen.

Joseph Gold Silk Mfg. Co., of Actonvale, Que., Can., will open a branch plant in Montreal and will employ approximately 50 operatives.

Associated Textiles of Canada, Ltd., Louiseville, Que., which started operations about a year ago, have broken ground for an addition which, when completed, will nearly double the number of looms now in operation. The capacity of the plant at present is 45,000 yd. of silk goods a week.

B. Edmund David Silk Mills of Canada, Ltd., will open a mill at Hawkesbury, Ont., Can., for the manufacture of narrow silk fabrics. The company which has just been incorporated with a capitalization of $100,000 is a subsidiary of the B. Edmund David, Inc., of New York City.

Rayon

Viscose Co., Parkersburg, W. Va., has increased its working schedule. The present demand for rayon was given as the reason for increasing the plant's production. No additional workers are being employed.

TEXTILE WORLD Cotton and Wool Index Numbers

COTTON INDEX NUMBERS

Date	Cotton	Yarns	Gray Goods	Colored Goods	Aver. for Cloths	Group Average
July 31, 1914	100	100	100	100	100	100
1925						
January	192	197	195	173	184	187
April	196	194	193	180	187	188
May	187	186	185	178	182	183
July	197	183	185	176	181	182
October	174	189	193	178	186	186
1926						
January	167	175	177	162	170	171
April	153	163	161	155	158	159
May	151	157	158	153	156	155
July	149	149	151	141	146	147
October	106	141	147	144	146	143
1927						
January	107	134	140	140	140	138
April	118	136	143	142	143	140
May	128	142	145	142	144	143
July	143	149	156	145	151	150
October	168	176	184	169	176	176
1928						
January	151	163	166	166	166	165
April	164	160	160	165	162½	162
May	172	165	164	168	166	166
July	174	167	165	168	166½	167
October	157	161	162	164	163	162
1929						
January	162	166	158	169	163½	164
April	163½	164	157	173	165	165
May	156	160	150	173	162	161
July	149	160	149	166	158	158
October	147	160½	155	161	158	158
1930						
January	138	149	141	157	149	149
April	131	139	129	156	143	142
May	131	136	129	156	142	141
July	105	120	119	142	130	128
October	85	110	115	125	120	117
1931						
January	82	102	107	124	115	112
February	88	104	106	124	115	112
March	87	102	109	125	117	113
April	82	100	106	125	116	111
May	75	98	99	125	112	108

ONCE again new lows were established in May by the cotton, yarn, and gray goods indexes in the cotton group, and by wool and tops in the wool group. Cotton colored goods, worsted yarns and wool cloths showed no change from their April levels.

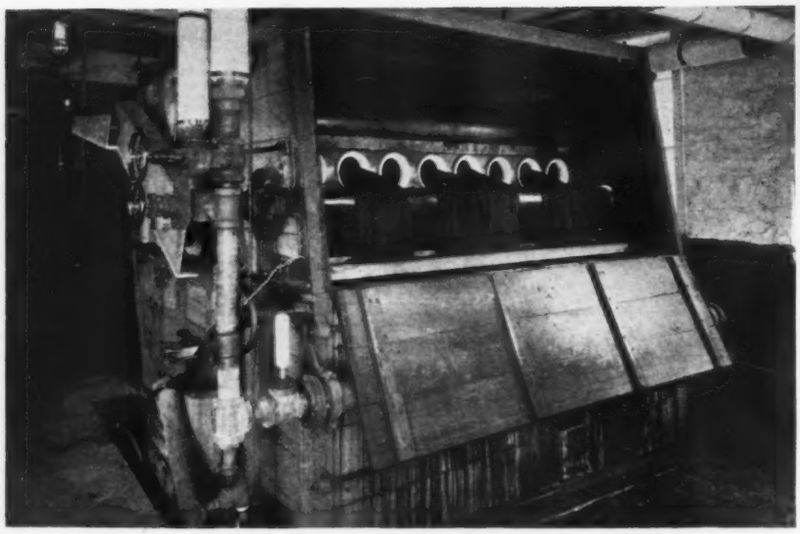
The raw cotton index at 75 was off 7 points from the April average; the extent of the decline in cotton prices during May is even more marked when comparison is made between the last week of April and the fourth week of May, the figures being 80 and 71 respectively. For the first time since these indexes were started in 1919 the yarn and gray goods indexes broke through 100, the former at 98 being off 2 points from April, and the latter at 99 off 7 points. Colored goods continue to stand out as the brightest spot in an otherwise drab statistical picture, and at 125 show no change in the last three months.

In May the raw wool index dropped another point and is now at 100, or the basis point; it is interesting to note in this connection that raw cotton touched 100 about nine months ago. The declines in the wool indexes, while none the less consistent, have been much less severe than those in the cotton group. Since January of 1930, for instance, raw cotton has dropped 63 index points, whereas raw wool has lost 48 points. The only change in wool manufactures in May was a decline of one point in the top index to 111.

WOOL INDEX NUMBERS

Date	Wool	Tops	Yarns	Cloth	Group Aver.
July 31, 1914	100	100	100	100	100
1925					
January	215	213	211	229	221
April	219	234	230	241	235
May	196	213	217	241	226
July	216	217	216	239	227
October	216	212	212	227	220
1926					
January	215	213	211	229	221
April	181	193	198	224	208
May	177	191	192	211	199
July	173	184	189	215	199
October	178	186	193	209	198
1927					
January	178	187	190	209	198
April	177	182	184	211	196
May	175	180	182	211	195
July	180	183	183	211	196
October	185	185	189	211	199
1928					
January	194	193	186	212	201
April	199	206	198	215	208
May	202	208	200	215	209
July	204	206	203	214	209
October	197	197	203	212	206
1929					
January	199	198	201	211½	206
April	187	189	198	211	202
May	178	183	194	211	196
July	169	170	188	211	194
October	164½	169	188	211	194
1930					
January	148	161	177	211	188
April	127	139	164	202	175
May	124	136	159	202	173
July	125	135	158	200	171
October	124	135	154	200	170
1931					
January	112	127	148	197	165
February	106	122	143	197	162
March	101	112	139	192	157
April	101	112	134	191	156
May	100	111	134	191	155

New Machinery *and* Processes



High capacity cloth washer installed in knit goods mill

Cloth Washer

ANNOUNCEMENT of a new cloth washer which embodies a number of innovations in design and appearance has been made by Rodney Hunt Machine Co., Orange, Mass. An important feature of this machine, which is known as the Advanced Clipper washer, is that the capacity per foot of length has been nearly doubled. The manufacturer states that a prominent woolen and worsted mill reports that in its new Advanced Clipper washer, which is only 2-ft. longer that the old washers, it is running sixteen cuts of 16-oz. men's wear, or double the previous load, and is using no more water and one-third less soap for the double load than formerly was employed for one-half the amount of goods.

The shape of the tub has been changed to allow the cloth to open up and remain in looser folds. This feature permits the rinse water to circulate much more freely, and thereby promotes faster rinsing. A test made in a knit-goods mill indicates that the new washer reduces by 40% the time required for rinsing. It is further stated that the washer is gentle in its handling of the goods, a trial showing that a piece of knitted shoddy overcoating, which had previously been fulled, stretched only 2 in.

A number of other improvements have been made in the Advanced model, and in addition, several of the features first introduced in the Clipper washer which was brought out about a year ago, are retained. Among these are the level-control drain, non-leaking suds box with two-way valve, sheet-spray manifold, unloading roll, and improved pressure device with nip-opening arrangement.

While the Advanced Clipper was designed originally for use in woolen and worsted mills and in knit goods mills, with slight modifications, it is arranged to handle almost any type of fabric.

Dryer for Asbestos Fabrics

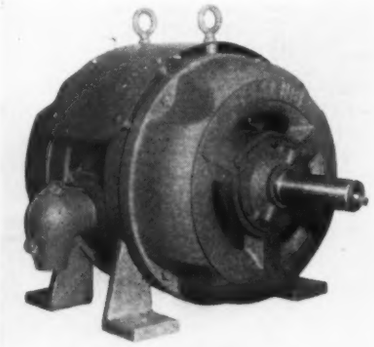
A LOOP dryer and impregnating tank developed originally for handling asbestos fabrics has been brought out recently by the Philadelphia Drying Machinery Co., 3351 Stokley St., Philadelphia. The equipment is a variation of the standard Hurricane dryer, and can be adapted for drying various types of textile fabrics, artificial leather, punched floor coverings, and other materials. It is designed to provide rapid drying at moderate temperature without tension, and to provide high capacity per foot of floor space.

Asbestos fabric is delivered to the machine in large rolls, which are mounted upon a stand so that they are free to revolve and feed the fabric to the impregnating tank. After passing through the impregnating tank, the material enters the feeding mechanism of the dryer, which automatically forms it in loops or festoons over the poles of a conveyor. While traveling through the machine, the material is dried by currents of warm air, and upon emerging it is again wound in rolls.

Loop dryer for asbestos fabrics

Drip Covers for Electric Motors

DRIP covers applicable to either a.c. or d.c. motors have been announced by the Reliance Electric & Engineering Co., Cleveland, Ohio. The covers are used to protect motors in band locations from dripping water, acid, or other injurious solutions, thus keeping the motors clean and lowering maintenance. The covers are made of heavy-gage sheet steel. They are securely bolted to the frames in roof-like fashion so that an opening is provided between the motors and covers to permit free circulation.



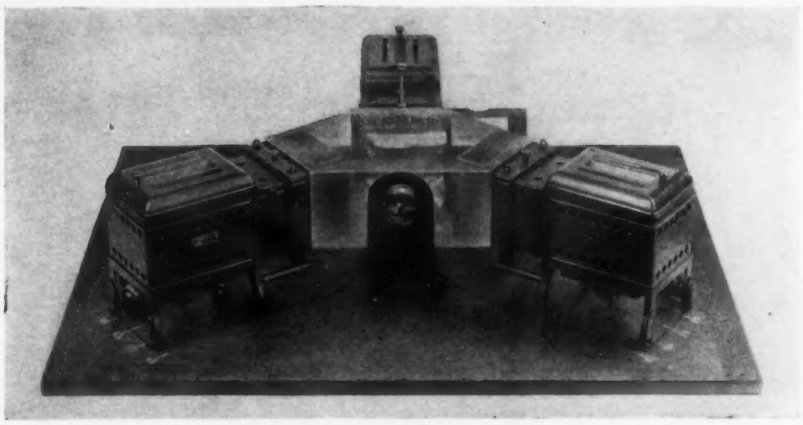
Motor fitted with drip cover of sheet metal

Textile Projector

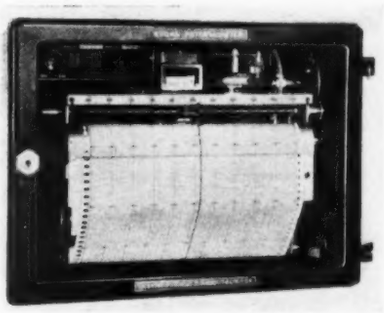
FOR the examination of woven and knitted fabrics Bausch & Lomb Optical Co., Rochester, N. Y., has developed a textile projector. This instrument consists of three illuminators—two of them for illuminating the front surface, and one for projecting the silhouette of the fabric. The two lamps illuminating the front surface are mounted at an angle on either side of the optical axis. All three lamps are provided with water cells to prevent overheating the specimen.

Red and green filters are supplied to color and to modify the illumination from the rear lamp, thus giving a bright-colored background over which the fabric stands out clearly. The fabric is held in a special adjustable steel frame designed by Alfred Suter. The two ends of a piece of fabric are clamped under steel rods which are adjustable to give the desired tension.

With the textile projector, the shape and size of the stitch and number of loose ends of fibers shows the condition of needles, sinkers, etc., as in the silhouette-projector examination. The additional illumination on the front surface is a further advantage in double-weave fabrics or for the examination of twist, evenness of fabric surface, and uniformity of yarn.



Textile projector for examination of woven and knitted fabrics



Potentiometer pyrometer of high-precision type

Potentiometer Pyrometer

A NEW null-type potentiometer pyrometer for indicating, recording, and automatically controlling temperature has been placed on the market recently by the Brown Instrument Co., Philadelphia, Pa. This instrument has been designed to meet the need for an extremely accurate pyrometer, and at the same time to be sufficiently rugged to withstand the severe service conditions met with in industry. The potentiometer pyrometer is said to incorporate over 53 features new of this type of instrument. Among these innovations are a positive driving mechanism controlled by a galvanometer and exerting minimum force on the galvanometer pointer, a 40-in. slide wire enclosed in glass and which can be immersed in oil where desired for protection from corrosive gases and vapors, and an automatic compensator which corrects the pen position for expansion and contraction of the chart paper with change in humidity of the atmosphere.

Automatic temperature control is obtained through mercury switches which can handle up to 25 amperes directly, without the use of relays. The case is of dust-proof construction and has been so designed that the instrument is suitable for wall mounting, table mounting, or either front-of-board or flush-type panel-board mounting. The galvanometer has been designed to give a uniformly high responsiveness under all practical operating conditions, and other features have been included to eliminate the need of adjustments to take up the wear on either the pointer or contacting mechanism and to insure the highest accuracy of the instrument over long periods of continuous operation.

Heavy Electrode for Quality Welding

A NEW heavily-coated electrode, designed Type R, has been placed on the market by General Electric Co., Schenectady, N. Y. This particular type of electrode is designed for quality welding. It is composed of 0.13 to 0.18 carbon steel covered with a heavy coating of cotton braid impregnated with an arc-stabilizing flux.

Metal deposits of this electrode are said to have high tensile strength and to produce a homegeneous structure resulting in a ductile weld. This is caused by the fact that, during the arc-transference period, the metal is in a protective atmosphere, because the electrode itself burns away quicker than the coating and excludes those elements prevalent in atmosphere which cause some undesirable results when the use of an uncoated rod is used. The new electrode is expected to be of particular value in applications where speed and ductility are essential requirements.

Capstan car puller

Over-End Cone Creel

DEVELOPMENT of an over-end creel which will be placed on the market this month is announced by Sipp-Eastwood Corp., Keen and Summer Sts., Paterson, N. J. This creel will accommodate 5- or 6-in. jumbo cones of rayon, although it may also be used for fine cotton yarns. It takes 600 to 1,000 cones arranged for magazine delivery or single-cone delivery. It is equipped with an improved tension device designed to give equal tension on all threads and permits delivery of the yarn over the end of the cone horizontally at any speed the yarn will stand without breaking.

The cone creel is intended for use with an improved condenser which gathers or condenses the ends of the warp before delivering them to the metal reeds. It is so built that it can be arranged for either inside sheet or outside sheet delivery.

While this cone creel can be employed with any horizontal warper now in use, and can also be operated with direct-beam warpers of the cotton system if desired, it is particularly designed for use with the new Sipp-Eastwood high-speed warper.

Car Pulling Unit

A CAPSTAN car puller of improved design has been brought out recently by the Webster & Weller Mfg. Cos., 1856 North Kostner Ave., Chicago. The unit is built in three sizes to handle from one to six 80-ton cars. It is electrically operated, self-contained, and weatherproof; and is designed to pull cars, trucks, etc., at any angle.

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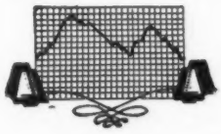
◆ *Survey of Fabric, Knit Goods, Yarn and Raw Material Markets* ◆

TEXTILE WORLD ANALYST



Wool Industry Should Curtail Or Suffer Consequences

By Dr. L. H. Haney

EXCEPT for several months of 1929 and one month of 1927, the April domestic mill consumption of wool was at the highest annual rate since 1923.

This naturally raises the question as to where this wool is going. At least we know that there was a larger consumption of combing and clothing wools which can not be attributed to the carpet industry. Woolen card and spindle activity was less in March and April, while the worsted branch made good gains. But mill consumption was so large that it appeared to be out of line with machinery activity, although the latter has made good gains in recent months.

The Two-Year Textile Cycle

The peaks of our index of mill consumption during recent years were made in April, 1923; January, 1925; March, 1927, and July, 1929. The time elapsed between these peaks varied from 21 to 28 months, which tends to confirm the two-year textile cycle to which we have often referred. May it not be, then, that wool consumption is now close to such a peak, and would be even higher but for the general depression? May we not hope that when the wool manufacturing reacts it will be supported by some recovery in general business?

It is also well to remember in this connection the experience of the silk industry. Deliveries of raw silk reached a low point in August, 1930, about four months prior to the low point of wool consumption. They then advanced to a peak in November, since which time a decline has occurred.

For the present, the outlook for the industry in foreign countries is not very encouraging, while the low levels to which general business has fallen in this country seem to indicate that expansion in wool consumption by the mills should be kept curtailed for a while yet.

Favorable Factors

The factors which tend to support the price of raw wool follow:

1. Domestic raw wool prices are further below parity with similar foreign grades than was the case several months ago.
2. Bradford is reported as having confidence in current wool values. No further drastic declines are looked for in merinos.
3. The Belgian wool mill strike has been settled.
4. The carryover in the southern hemisphere countries is expected to be moderate.
5. Mill consumption of raw wool during April increased sharply, contrary to the usual seasonal decline. The adjusted index, which allows for number of working days, was the highest since September, 1929.
6. Receipts at Boston, and imports, remain small compared with mill consumption.
7. The activity of combs increased more on a percentage basis than in any April in the last eleven years. Worsted spindle activity also made greater than seasonal gains.
8. Demand for both weaving and knitting yarns has improved.
9. Fall buying of men's wear is reported to be better than last year, and the vogue of wool goods in women's wear is a cause for hopefulness. Stocks of heavyweight cloths are in a clean condition.
10. Wholesale dry goods sales increased again in April.

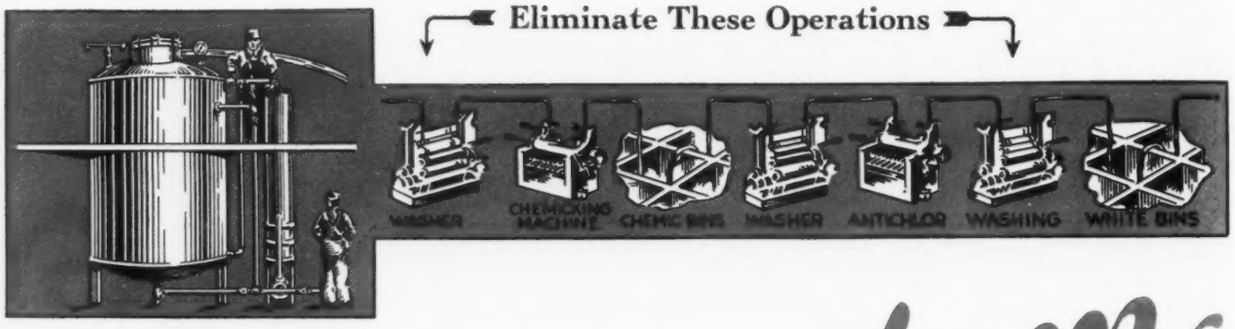
Unfavorable Factors

1. Primary markets have been easy, following weakness at the London auctions, when artificial restriction of supplies and shortened sessions alone prevented lower prices.
2. Bradford top prices have been weak recently.
3. Stocks of tops in Continental commission combing establishments increased in May, and were larger than a year ago.
4. Domestic buying of raw wool has been at a slower rate than a few months ago. Prices were easier in May, but not enough to stimulate buying. The prices of top futures have declined several cents on the new Wool Exchange.
5. The activity of woolen cards during April showed a record decline for the month; woolen spindles declined more than usual.
6. Wide loom activity declined in April.
7. Worsted sales yarn prices have declined further, and the replacement margin of spinners is lower.
8. Manufacturers' replacement margins were lower in April.
9. The dealers in higher priced cloth-

Summary: **Mill consumption of wool seems to have increased more sharply than market conditions warrant. Some declines in wool manufacturing activity is indicated, and in that case a little further reduction in wool prices would be probable. The easing in cloth prices does not seem to have terminated.**

The analysis and forecast by Dr. Lewis H. Haney, director, New York University, Business Research Bureau, which regularly appears on this page, considers various branches of the textile industry from week to week. The conclusions reached in the Analyst are mostly forecasts and generally apply to a time two or three months ahead. The Analyst is based on statistical data and does not reflect temporary trade sentiment.

and Cotton Sateen *bleached with minimum handling . . . . .*



The R&H System of PEROXIDE BLEACHING *cuts processing time*

Cotton Sateen bleached to a lustrous, uniform and lasting white with less labor, fewer operations and a great saving in time—this is the meaning of the diagram given here—a diagram of significance to modern textile finishers. Briefly, the R & H Kier System of Peroxide Bleaching eliminates many of the treatments incidental to the older processes and calls for the actual application of the bleaching agent in the iron kier.

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These advantages are not theoretical. They have been proved in actual operation in a considerable number of important mills. The R & H System has demonstrated the fact that it COSTS NO MORE than other processes, and gives better results on all cotton bleaching. Any Kier can be quickly adapted.

What are your textiles? Will the R & H System cut costs and improve results in your mill? Why not send a representative to our Bleaching Station and Laboratories with samples—and let us demonstrate before him? This places you under no obligation—and may mean much to you. Write for details—today.

This is No. 6 of a series of diagrammatic illustrations of the specific economies of the application of the R & H System of Peroxide Bleaching to specific fabrics.

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ing are feeling the effects of economical buying.

10. Wool is dear compared with cotton and silk.

11. The general business decline is broadening; commodity prices have been acutely weak, and the P/V Line does not yet indicate improvement.

Raw Wool Markets Easy

Raw wool prices showed renewed weakness in May. Foreign markets were easy and greater declines might have been witnessed at London had the auctions not been shortened and large withdrawals been made. These developments, as well as a slackening in domestic mill buying at a time when the new clip was beginning to move, prevented a continuation of the stability which had begun to appear in April. The result was a decline in the price index to 51.2% of the 1921-28 average during May. In April the index was 53.2%, and a year ago stood at 65%.

Mill consumption of raw wool during April was 108% of the average for 1921-28. This was an unusual gain over the index of 86% in March and 83.3% a year ago. Why was the only response in prices a temporary halt in their decline? Although the index of estimated total receipts in the United States increased, it was less than last year and also below the average relationship with mill consumption. Why then did wool prices weaken?

The explanation is probably to be found in the facts that (1) the clip now coming on the market in the United States is larger than last year, and heavier receipts are being discounted; (2) mill consumption is nearly as high as it is likely to get; (3) activity in the woolen branch has slumped; (4) quotations at the London auctions declined, although artificially maintained at the close; (5) Bradford top prices have weakened and are out of line with wool values due to an unsatisfactory goods market and financial pressure; (6) the continued weakness in commodities, especially raw materials, makes for a lower normal value for raw wool, and recent declines to record lows for silk and acute weakness in cotton further emphasize the relative dearness of wool.

Yarn Position Less Strong

The Textile World index of worsted sales yarn prices declined less rapidly in May. The index was about 65.5% of the average for 1921-28, against 66.0% in April, and 78.3% a year ago. Renewed declines in raw wool during May tend to minimize the hopes for stable yarn prices that were aroused when wool prices firmed temporarily in April.

The average replacement margin of worsted yarn spinners declined less sharply in May. Improvement is not likely to be of large proportions, however, because of the fact that spindle activity has been stepped up more rapidly than the requirements of cloth weavers would seem to justify. Of course, some allowance must be made for knitting requirements, but there does not seem to be as much prospect for better margins as was the case a month ago. Further sharp declines are not likely to occur, however, during the next month or two, even though sales yarn prices are easy and follow the trend of raw wool.

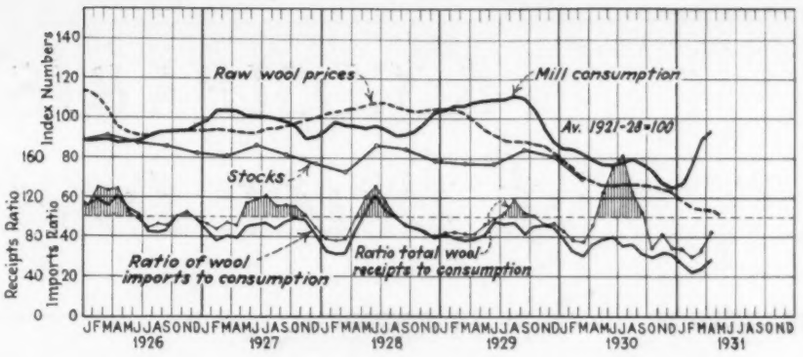


Fig. 1. RAW WOOL BAROMETER: Price—Textile World Index; Mill Consumption—Grease equivalent, average daily adjusted for seasonal variation, three-month moving average; Stocks—U. S. Total, grease equivalent, end of quarter, adjusted for seasonal variation. Ratio of Total Raw Wool Receipts in the U. S. to Mill Consumption—Receipts not reduced to grease equivalent, adjusted for seasonal variation. Consumption as above, three-month moving average. Average for 1921-1928 = 100 for all four indexes. Ratio of Raw Wool Imports to Mill Consumption—Imports not reduced to grease equivalent, adjusted for seasonal variation. Consumption as above, Average 1921-1928 = 50, three-month moving average.

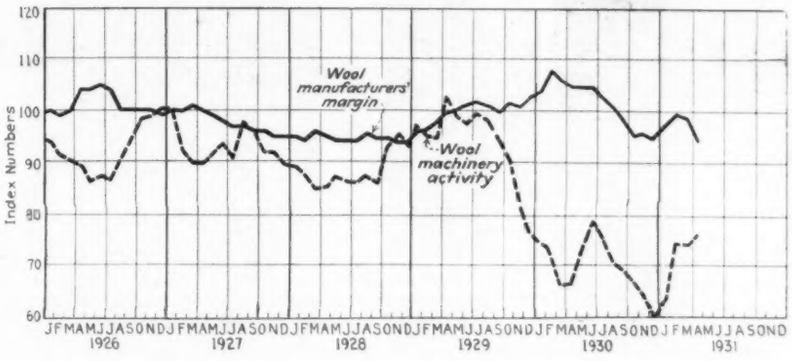


Fig. 2. WOOL MANUFACTURERS' MARGINS AND ACTIVITY: Wool Manufacturers' Margins—Average of replacement margins; Wool Machinery Activity—Composite of loom and spindle activity, adjusted for seasonal variation; Average 1923-1927 = 100 for both indexes.

Cloth Prices Weak

The woolen and worsted goods price index of the Bureau of Labor Statistics declined during April to 76.3% of the average for 1921-28. This compared with an index of 78.7% in March and 88.4% a year ago. The Textile World index of wool cloth prices, which is composed of more staple lines, was unchanged.

Manufacturers' replacement margins were sharply lower in April as a result of the wide decline in worsted and woolen goods prices, while the raw wool market was firm. The replacement margin of the average manufacturer is estimated to be as low as at any time since the beginning of 1925, when the post-war peak of raw wool was touched. High raw material prices are not responsible now for the poor margin; wool is selling at its post-war low. The difficulty appears to lie in a poor demand for manufactures.

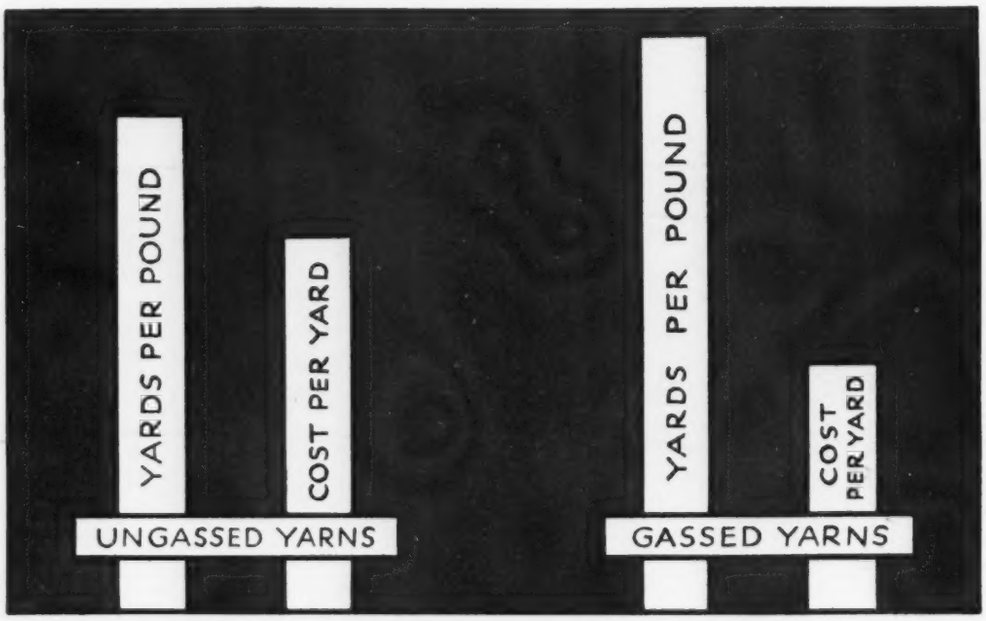
Although the adjusted index of wholesale dry goods sales increased in April, it fell far short of last year. Compared with loom activity, which is an index of wool cloth production, dry goods sales make a poor showing. Of course, price declines are largely responsible, and must be allowed for. But the fact remains that loom activity in April was greater than last year, while the value of dry goods sales was considerably less. Probably the production of wool textiles is too large at current demand levels, for otherwise the prices of wool goods would not be so much weaker than raw wool.

Production Control Needed

It looks as though better margins will come only through curtailment of production. Already the woolen mills have reduced their activity, and the record lows in spinners' margins suggest that better control of production is needed in the worsted branch of the textile industry.

On the whole, the renewed decline in general business, the weakness in stock and commodity prices, and lower raw wool and yarn prices, all suggest some further declines in cloth prices during the next few months.

A COMPARISON
of price to yards



When buying gassed yarns, yardage per pound goes up, price per yard comes down as gassing always makes yarns finer without changing diameter. Of course there are other advantages in gassed yarn such as less fuzz, cleaner yarn, more lustre and most important of all, a better looking finished fabric.

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YARNS AND RAW MATERIALS

TEXTILE WORLD ANALYST

◆Cotton Yarns Show Healthy Tone

STRENGTH shown in raw cotton prices earlier in the week revealed a tendency to check the downward movement of yarn prices. A firmer attitude was shown by many dealers in declining to consider some of the low offers. While there are, to be sure, still instances of prices lower than average dealers would accept, the situation revealed a prompt reaction to any encouraging factors. Inquiries for yarns continue in scattered fashion, with immediate or prompt shipments an important element. Buying is much restricted as yet, so that prices are still more or less nominal.

This requirement for early delivery reveals a low level of stocks in the mills of users of yarns. Manufacturers are not yet willing to consider any purchases running into the future. Their experiences of the last two years has discouraged forward buying, when every purchase made has shown a recession from previous levels. However, recent resistance shown to further declines in raw cotton, leads many dealers to feel there is hope for firmer cotton prices and resulting greater confidence in yarns.

Elimination of night work in the South has tended to reduce any possible accumulation of stocks which could have an oppressive effect. As has been noted a number of spinners have closed down rather than pile up stocks of yarns in their inventory. More than 20 mills shut down in the last month, is reported by one leading house. These conditions lead many dealers to feel that the market is in a stronger position to meet future developments. Refusal to book business ahead at present prices also strengthens spinners' position.

Delivery of carded knitting yarns for underwear still encounters some difficulties. Most of these orders were placed around the first of the year at higher prices than prevail to-day. Knitters committed on these contracts naturally find themselves at a disadvantage in competing with mills buying at lower levels. There is, of course, some disposition to cooperate with these mills. However, spinners have covered their cotton requirements against the orders, and so they naturally expect to have delivery of the yarn accepted.

Single combed yarns for light weight underwear are in somewhat better position than carded knitting yarns. Deliveries have been fairly well maintained and several spinners are taking a firmer position on prices, holding for 37c. for 38s, and 27 to 27½c. for 18s.

Little new business is reported in hosiery yarns. Deliveries generally are going along, but here and there is to be noted a tendency to irregular deliveries due to local conditions.

Prices are still more or less nominal. The yarn list given on page 62 represents a fair average of values, with occasionally lower figures possible under special conditions. On the other hand many spinners will not consider offers even at the levels indicated.

◆Cotton Does Not Hold Moderate Rallies

MODERATE rallies from the declines of the previous week were followed by renewed weakness in the cotton market. All months made new low records for the season under further liquidation combined with selling from various sources which was evidently inspired by reports of favorable crop progress and the failure of stocks to hold moderate rallies. July contracts sold off to 8.16 early in the week while December declined to the 8¾c. level, but these prices seemed to bring in rather more active buying by the trade while the market also showed indications of an improved technical position, as indicated by a smaller volume of offerings and more disposition to cover short contracts. There was little aggressiveness in the buying or inclination to follow up the advances however, and the market remained unsettled.

Market Briefs

Cotton: ***Irregular sidewise movement, but scant general support.***
Cotton Yarns: ***Resistance to decline shown with firmer attitude by spinners.***
Cotton Goods: ***Prices declining in quiet market.***
Wool: ***Buyers' interest narrow centering on fine wools. Market believes mill stocks running low.***
Worsted Yarns: ***Fair business moving but profit margins squeezed to disappearing point.***
Woolen Goods: ***Men's wear volume is surprising trade.***
Silk: ***Prices 5c. off; tone weak, but good spot call. Fall outlook promising.***
Silk Yarns: ***Thrown yarn prices dropped, stimulating rally in orders, but now both spun and thrown are quiet.***
Silk Goods: ***Shantungs selling at loss to clear. Chiffons with light grounds firm and active.***
Rayon: ***Yarn demand suffers seasonal drop; brief summer lull expected.***
Knit Goods: ***Mesh and lace-top numbers lead hosiery demand; half-hose tends to better quality. Lightweight underwear and bathing-suits active.***

If anything there may be a tendency slightly to increase estimates of the reduction in acreage. Figures are averaging a little over 10%.

Reports as to the reduction in sales of fertilizer tags have also continued to reach the trade with the statement of the National Fertilizer Association for May showing a decrease of 17.2% as compared with the May sales of last year, while for the six months, December-May sales in the southern States showed a decrease of 28.2%. Private reports have also indicated increasing insect infestation in some parts of the South, reviving talk of damage by boll weevil or other insects this summer. These features, however, appear to have caused no alarm in view of the large carry-over in prospect for the end of this season and the failure of trade advices to show greater improvement.

One of the large international houses discussing the prospective crop and possible consumption for next season says that on the basis of information so far available, the crop prospect can hardly be appraised at less than 11¼ million bales while it seems extremely bold to expect next season's consumption of American cotton to reach 13 million bales. This would mean some reduction in the carry-over, but would leave a surplus of about 7½ million bales at the end of next season. Such views of crop and consumption possibilities, and many believe that the crop may exceed 11¼ million bales, combined with the unsettled ruling of the stock market, no doubt, accounts for the action of the market.

Meanwhile, prices have reached low levels as compared with the ruling of values since the war, while the possibility of summer crop scares or of gradual business improvement are not altogether unrecognized. They are reflected by some quiet trade and investment buying on the declines but do not inspire sufficient confidence, apparently, to inspire an aggressive position on the long side of the market. With any indication of returning stability in the stock market, bullish possibilities in cotton would undoubtedly come in for more attention, while it may be that the increased retail turnover reported during cotton week will find a reflection in the primary goods markets rather soon and on a more important scale.

Quiet Week in Memphis

MEMPHIS, TENN., June 8.—Business was generally quiet during the week in this cotton market. Neither volume of sales nor character of demand showed much change from previous weeks. Further declines in contract values had the effect of restricting offerings, while the lower prices failed to stimulate demand, which was indifferent except in instances where there appeared to be a

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COTTON and WORSTED YARNS

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YARNS AND RAW MATERIALS

TEXTILE WORLD ANALYST

short interest in $\frac{7}{8}$ to 1 in. cotton which was finding difficulty in covering. Demand for premium staples was poor, but there was some inquiry for the better grades of $1\frac{1}{8}$ in. and longer for export.

Sales out of local stocks totaled only 250 bales, which was not particularly surprising since the small unsold stock, of less than 15,000 bales, consists mostly of "overs." While orders are for small lots, it is difficult to get together enough even-running cotton of the wanted descriptions to fill them; as a result there is much looking about, giving the appearance of activity which is not reflected in actual sales. Large stocks are being carried by two or three of the larger merchants and it is to these that one must turn when sizable lots are wanted and usually, it will be found, very full prices are demanded. This goes far toward explaining the firm basis in the face of small demand; also first hand holders of cotton have for some time been more insistent as to price than basis.

June weather so far has been favorable for cotton; the plant is now growing well after having remained at a standstill until about ten days ago. Fields are clean and well cultivated. Stands are fair to good. Chopping is nearly completed.

◆Cotton Waste Prices Firmer

THERE was a slightly better feeling in the cotton waste market this week, consumers showing greater interest in spinnable materials. Lower prices recently made have encouraged spinners of coarse count yarns and other waste users to operate more freely. Prices appear firmer than a week ago. Low offers have been turned down and there is less evidence of distress selling. Both buyers and sellers are still operating cautiously, however, and much will depend upon the action of the raw cotton market during the next few weeks.

Sales of peeler comber were put through this week on a basis of 7c., and in one or two cases slightly more than this was obtained when a particularly choice parcel was involved. Upland and peeler strips are undoubtedly the strongest wastes in the market, the latter selling currently at the same price as peeler comber. More interest is being shown by machiners in spooler and slasher; these processors of necessity have been extremely cautious buyers for some time past due to the pressure that has been brought to bear upon them for lower prices on wiping and packing wastes by railroad and other customers. Thread prices are at record low levels and stocks are quite large.

◆Worsted Yarns Feel Competition

LITTLE complaint is offered by the average worsted yarn dealer or spinner regarding the volume of business done within recent weeks. It is another story when prices are discussed. Competition has been so keen that there is little profit and therefore lack of satisfaction in the situation. Despite the demand which developed for worsted yarns, there was little chance for added strength in prices due to the keenness of this competition, as well as to current conditions in raw wool.

Delayed buying by manufacturers has brought about strong demand in which immediate delivery is an important factor. Occasionally there were orders placed which ran ahead for some weeks, several to Aug. 1 for men's wear yarns. On the other hand, many buyers have preferred to purchase yarns as needed. A number of men's wear mills are running full on fall goods. In fact a few mills in Philadelphia are reported working at night in order to make deliveries. With this trade the bulk business has been in 60s to 64s in worsted, with chief deliveries in compound mixtures, fancies, double and twists.

One interesting feature reported is the unusually speedy deliveries made on these fancies by some spinners. A number of spinners could not make deliveries under four weeks, and they have been losing orders to those who offer two or three weeks deliveries.

Prospects for women's wear lines are considered by many very favorable. Sample cuts are now being made in which single 30s French spun worsted figure largely. Woolen yarns, however, are expected to play an important part, with piece-dyed fabrics prominent. Ratines and fancy twists are attracting special interest, it is stated.

The late start in purchasing yarns for bathing suits has resulted in what many consider a wonderful season. Spinners are still busy cleaning up deliveries of these yarns which have been taken as rapidly as they could be made. Inquiry now is not quite so brisk, since the big volume business has already been booked. Similar conditions prevail in outerwear yarns.

Sampling for next season has already started. Many bathing suit manufacturers expect to show their lines in September with the idea of starting work in October and November. Still others plan to talk to jobbers in August regarding next season's requirements, as deliveries in bathing suits will be needed in January for the Palm Beach season, with others calling for February deliveries. Optimism is heard as to prospects for this business for it is felt that knitters have learned they cannot depend upon spinners for deliveries if orders are held up unreasonably beyond the time needed for production.

Women's outerwear lines are also considered to be in favorable position. Showings of samples are said to have met with good reception, and as a result it is concluded that this business will start in good volume in July. Indications here point to a large use of single zephyr yarns.

◆Fine Wools Now Best Sellers

THE feature of the operations in wool in May was the further cleaning up of old clip wool. Manufacturing demand for wool has been in such good volume for year to date that it seems apparent that the worsted industry in general must have drawn heavily upon its holdings and that an entrance into the wool market for substantial supplies is only a matter of a short time. While the year opened with an abnormal supply, chiefly in the hands of the National Wool Marketing Corp., mill buying has been sufficiently extensive to bring stocks of old clip wools to what is considered a normal position for this time of the year. Total holdings of old clip territory wools held by the marketing corporation are stated authoritatively at 14,000,000 lb.

Owing to the continuous demand for fine and to the relative neglect of medium wools, it is taken for granted that a large part of last year's unsold wool is of medium grade. In addition to the territory wools above named, there are moderate accumulations of last year's Texas 12-months wool, but this wool has been in steady demand for weeks with a price quite steady around 62c. Supplies of 8-months Texas wool of last year's clip are quite substantial, and it is something of a problem for growers, independents and cooperatives how to handle this short wool for which mill demand is quite restricted.

Operations in taking over the new clip are less aggressive, but the marketing corporation to date has signed up about 85,000,000 lb. Officials of the cooperative believe that they will handle fully 150,000,000 lb. of the 1931 clip.

Wools of French combing style, from Utah, Wyoming, and Arizona are bringing about 55c. clean with the choice of the Texas clip running up to 60c. Strictly fine graded territory is quoted 63c. Demand for half-blood continues spotty. Consumption of this grade has not made any gain over the amount utilized a year ago. The best wool brings up to 57c., while the top making type sells as low as 52c. In three-eights

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blood territory wool the price ranges from 45 to 50c. depending upon whether it is 56s or 58s quality. Demand for quarterblood is sluggish. Clean price is 43 up to 45c. for 50s quality. In fleece wools the tendency is slightly downward. For the first four months of this year delaine wool on a clean basis sold 7 or 8c. a pound higher than fine territory, but this stretch in price has now been eliminated and both wools are approximately on the same clean basis price of 63-64c.

◆Trend Uncertain in Wool Substitutes

GRADUAL gain in confidence was noticeable in woolen rags and reworks through May. There was several outbreaks of mill buying in a limited number of rags, light hoods standing out in the limelight on account of the rapid upward movement of price. The average level for the rag market for May was probably slightly above that of April and further improvement in this direction is anticipated. Mixed rags were comparatively stable. Buying by graders was, however, cautiously conducted. Limited imports for the month were entirely in white clips, underwear and hosiery material.

The woolen rag market is encouraged to learn that same New England mills which are normally large consumers of rags and reworks are increasing their working schedules. Business is so poor in general, however, that some graders specialize on sorting of rough cloth, while others confine their attentions to mixed softs. Other graders confine their operations, it is said almost entirely to the obtaining of their graded sorts from weak holders.

The prevailing inactive market in wool wastes makes it difficult to quote firm prices on standard materials and in the case of low-grade wastes the prices paid depend upon the urgency or otherwise of the buyers in securing additional materials. Some dealers are quoting up to 57c. for the imported waste but it can be imported below this figure at the present time and very good domestic thread waste can be bought around 55c.

May was a dull month for noils. Business was slow and dealers found it more difficult than in the previous month to maintain prices. Judging from conditions in the wool combing industry noils must have accumulated, the output of fine noils being still well in the lead. One of the obstacles to better demand and higher prices for fine noils is the large accumulation of short fine Texas 8-months wool pressing for sale. These wools can be sold clean content basis around the price of a fine noil.

◆Throwsters, Spinners Report All Quiet

THROWN yarn prices weakened considerably at the end of last week, but Monday brought a firmer tone, and there was some hope of a steady market. Buying is hesitant, to say the least; neither weavers or knitters show any interest, beyond immediate requirements.

The current week brought flurries of small orders, all for small spot shipment, and price was a factor in most purchases. The call is pretty well divided among crepes and organzines, to the weavers, while knitters restrict themselves to trams; grenadines are backward. Throwsters are resigned to a lull period, in view of the warm weather, and do not expect fall business to materialize before late July. Stocks in hands of throwsters are moderate, and the market is hopeful for fall.

The cut in spun silk prices brought a short-lived rally in buying, but it was almost entirely bargain business. Orders dropped to a negligible point this week, and fall inquiries also waned somewhat. Spinners are satisfied to play a waiting game; they are busy lining up their fall offerings, and look for active sampling after Independence Day. Stocks in yarn mills are claimed to be small.

◆Raw Silk Outlook For Second Half

RAW silk approaches the end of the first half in a very weak position, but the future is not without some promise. Current levels, indeed, offer scant encouragement; several times this month raw silk hit bottom in some divisions, and there is no immediate prospect of a pick-up. The second half of 1931, however, could conceivably bring much improvement; a great deal hinges on developments in the domestic consuming market. Weavers and knitters are confident of their own outlook, but doubtful about the primary market; they confine raw silk committments to immediate needs. Spot business has been lively with some importers, so much so that premiums of 5 to 15c. are paid.

Manufacturers have some stock, but supplies are far below what they will need, once fall production gets under way. Importers expect the broadsilk trade to begin producing fall fabrics next month, and they look for a pick-up in buying then. Meanwhile, the manufacturers appear convinced that the primary market will recede further, and wild horses cannot draw any sizable future orders out of them, at present.

Current stocks in hands of importers are small and badly assorted, but this has not strengthened the market, due to hesitancy of buying. Importers note a strong downward pressure in price sentiment here; they claim they cannot make purchases in Japan at the selling prices prevailing here.

The Japanese situation continues hazy. Filature owners complain of prices quoted for new crop. There are numerous reports of pending plans to cut production in Japan, and also of plans to divert the surplus raw silk stocks there to domestic fabric manufacture, which certainly would be a big aid to the primary trade. But the New York market is skeptical of these projects; importers have been disappointed frequently regarding Japan's efforts to stabilize the market.

As regards outlook, one thing is clear: the market now is at the turning-point, and the next four weeks will be a crucial period in indicating the prospects for the second half. On the whole, importers are confident; they regard the market as at bottom, with reasonable likelihood of a slow revival beginning about mid-summer.

◆Rayon Slackening Helps Deliveries

JUNE is bringing the expected seasonal lull in rayon yarn demand, and orders this week show a noticeable drop. The decline has been welcome, rather than otherwise, to producers, as it is enabling them to catch up somewhat with orders. Numerous of the popular deniers are still short, and the chief companies are sold for weeks ahead. Manufacturers find difficulty in getting quick shipment of the 100s and certain of the 150s, but the producers have increased output and they expect to be abreast of sales shortly—assuming of course, the demand continues to decline. The summer lull has developed about a month late, and the market is divided as to the probable length of the quiet period; opinion leans to a short lull.

If current sentiment among weavers and knitters is any criterion, the quiet period will not last more than six weeks. These manufactures regard the fall with some confidence; it is still to early to shape production schedules, and they are holding off on that, until they get closer to the season. However, some rayon producers have written a little fall business already, look for further futures activity at the end of the month.

Fabric weavers who have specialized in rayon flat crepes report a decline in demand, and they have curtailed output, which has been an important factor in the week's drop of yarn orders. As regards the "obsoletes," producers look

(Continued on page 61)

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FABRIC MARKET REPORTS

TEXTILE WORLD ANALYST

◆Men's Wear Orders More Equally Divided

WORSTEDS and woolens for fall men's wear are in good demand with the tendency to expand even further than has been seen in the last two months. Worsteds are in the lead but there are a number of woolen mills that are running full time on fall business. Men's wear worsted manufacturers are on 24-hour schedules in many instances and these mills report that so far as they can now see this condition will continue with them for several months.

At least enough business to run them on present schedules for the summer months is in their hands and they see definite indications that new orders booked in the next month will make it possible for them to continue on the same active basis into the fall months. That this is true is indicated by the action of one or two mills in advancing prices on fall men's wear goods.

Grays and Blues Lead

Grays and blues are in the lead so far as colors for men are concerned, one being in the lead with some houses and the other with an equal number. Browns and tans are in next place in popularity. Although there is a tendency among sellers to predict that fancies will soon come into greater prominence none is willing to go very far in this direction so far as actual change in present production is concerned. They look for demand to change to fancies gradually but they are not willing to do any pioneering in this respect.

Sellers that specialize in slightly higher priced lines for men report booking a much larger volume of business. This means that the cheapest houses that sold practically all of the business at the beginning of the season are now losing some of the later orders to houses which have been less active sellers up to the present, simply because the former are now unable to give as early deliveries as the latter.

At first the houses that sell cloths in the $1.30 to $1.60 price range were the most active but this week concerns with fabrics up to $1.75 and $1.90 have been booking a larger volume of new business. This was to be expected and will probably carry further. Houses which have previously been unable to do much men's wear business, from now on should find the going much easier and no doubt will edge into the trading mainly for the reason the active sellers are no longer able to make the deliveries wanted.

Summer fabrics for both men and women are selling less actively than last week and interest in these will subside from now on. Fall women's wear has not begun to move in large volume. There has been widespread sampling in these fabrics and manufacturers believe that active trading will begin in the next few weeks.

◆Small Stocks Will Help Cotton Goods

THERE has been some weak selling in cotton goods during the last two weeks and it is probable that many are beginning to think about their inventories at the end of the present month. Goods have been declining along with the raw material market and at times the descent has been more rapid, most sellers agreeing that manufacturers are worse off so far as margins are concerned than they were a month or 6 weeks ago.

Present period of dullness has been apparent for the last month and a half; but it is significant that during this difficult time print cloth stocks have not increased materially. Recent estimates place them at approximately 23,000,000 yd. which is only 6,000,000 yd. larger than the low point reached earlier this year, the low point of recent years. The present small stocks compare with 90,000,000 yd. reported last August.

These figures show that cotton goods manufacturers, although stocks have increased during the dull period of recent weeks, have kept their position as sound as it was humanly possible to do. It means that almost any buying whatever would have an immediate effect not only on stocks but upon prices. There are well-informed factors among large selling organizations that believe a buying spurt will be seen within the next two months that will lift prices more rapidly than has been seen in a long period.

To make the stock situation firmer it is announced by several sellers that their mills will close tight for at least a week around July 4 and probably for 10 days. There are several who assert that if conditions then are similar to those found at present, their mills will remain closed for a month. Whether the latter is to be discounted remains to be seen, but the week's closing at the time of the holiday is definite with most mills.

Prices of print cloths have declined from $\frac{1}{8}$ to $\frac{1}{4}$c., but sellers say that this merely brings the whole market down to the level at which business was formerly being done. There were previously only a limited number willing to sell at current figures but now all houses have come down to that level and at the middle of the week there was little or no offering of goods below this.

There has been little business of importance placed but the brightest spot of the market during the week has been cloths used for cheap curtain material. It is reported that several million yards of 38½ in., 44x40, 8.20, were sold at 3¼c. Mills are not anxious to sell far ahead at current quotations. This was indicated when sizeable offers for 80 squares for October delivery were made this week and immediately turned down by the mills. Prices were slightly softer at the end of last week than at the beginning.

◆Broadsilk Interest Accents Velvets

UNCERTAINTY among cutters regarding late summer and fall retail demand, has slowed up the movement of all broadsilk lines. The present lull in fabric sales also is partly due to the approach of the normal summer let-up. Executives of leading mills find market tone weak, with a few outstanding exceptions, among them transparent velvets and the low-priced cantons. Transparent velvets are being used extensively for the popular short jackets that women are wearing with summer dresses, and substantial orders are being placed. Velvet color trend leans to black, with pastels important.

Not many manufacturers are ready to discuss fall, but those who are, predict an increasing interest in new weaves and novelty effects. They say that the downward trend of prices influences the person of descrimination and means to insist on originality in fabric patterns, and they foresee an unusual emphasis on novelties in the coming season. Already there is a fair call for metallic fabrics, especially some new print numbers. As a whole, however, buyers are wary, and no real fall business may be looked for, for some weeks.

Shantungs are clearing rapidly, with prices at rock bottom. Mills sell at cost and even below cost, in a hectic rush to clear. There is still much shantung merchandise available, despite the break, and it is unlikely that these fabrics will be completely disposed of before the end of the month.

Chiffons are in a better position; prices are uneven, but there is a shortage of light ground fabrics of attractive design, and buyers pay list unhesitatingly for these. Other sheers are weak, though not as weak as shantungs, one reason being that the available stocks are proportionately smaller. Flat crepes are 100% a price proposition, with buyers very cautious.

Sentiment is hesitant, but there is a growing confidence in the fall outlook. It is clear that the fall season will open late. Mills are determined not to show fall lines until the last minute, in order to avoid letting their fabrics become "stale" before their time.

KNIT GOODS MARKETS

TEXTILE WORLD ANALYST

◆Summer Underwear Demand Slackens

FALL underwear orders have begun to come in, but buying is still cautious, and only a few of the large firms are covered for August requirements. The increased activity has encouraged producers however, and they look for a steady pick-up from now on. Lightweights are still the major line. Despite good buying tone, some firms have grown apprehensive of their carry-over and are cutting prices; most of the leading agents claim they are still holding to list. Such price weakness as appears is in the cottons; rayons are steady, with a good call for spot shipment. In the cottons interest leans to two-piece lines; men's garments in assorted colors move well, and stripes are more popular than solid colors.

Part of the industry is still sold well ahead on lightweights. Demand slackened during the past week, and this has enabled producers to catch up somewhat on orders. The leading producers still insist on two weeks leeway on delivery, while a few firms are asking four weeks.

The price weakness above noted seems to have no basis, other than panic. Distributor stocks are low, and a fair quantity of volume business is still to be placed. Distress merchandise, if any, is scant. Given continued warm weather, prices should hold current levels for another few weeks, at least. The chief difficulty is the hesitant attitude of the distributing groups, who buy minimum quantities.

◆New Extreme Cut Swimsuit Offered

AGENTS for bathing-suit mills are too busy even to be interviewed these days. Demand for all the major lines continues strong, and retailers find difficulty in getting early shipments. Women's pastels are in good call, especially two-tone garments; but there is a steadily growing demand among women for the mannish shades, such as black, gray and navy. Several extreme models, backless and with scarcely more than a skeleton front, now are being offered in the women's lines; but the market regards them with much doubt, due to their daring cut. These swimsuits won wide approval in Hollywood. While the line is worth watching, sales to date have been very light.

Lightweight sweater turnover has slackened, but knitters regard it as a temporary lull. The tone of the summer sweater market is uncertain. Producers of heavyweight sweaters are encouraged by a perceptible increase in demand; this division is perhaps the most backward of the entire knit goods group, and orders are several months behind normal. The slow buying caused a let-up in output, with the result that stocks are comparatively low; any sharp acceleration of buying in July would find mills unable to fill orders. While the shortage cry is often raised unnecessarily, there seems to be some basis for the belief that the heavyweight sweater stocks available in July will be inadequate to meet normal demand.

◆Seamless Mesh Hosiery Active

DEMAND for women's full-fashioned hosiery has slackened considerably, and mill agents regard it as the beginning of the summer lull. There is still a fair call for low-priced lines, but orders are smaller and fewer than in May; distress merchandise is in evidence; there does not seem to be any great quantity but the surplus is sufficient to bring a slight softening.

The industry is taking official cognizance of the tendency on the part of certain mills to increase output; that trend has been noted in these columns for some weeks, and it has shown no signs of abating.

The danger of resuming production for stock would appear to be manifest, and it seems almost unbelievable that knitters could so quickly forget the lessons of the past six months. The relatively firm situation that obtained through the March to May period was due to reduced stocks, and a firm attitude on production would continue it.

The National Association of Hosiery and Underwear Manufacturers, in its current news-letter, writes: "With the approach of summer, it becomes increasingly clear that it is basically important for the industry, especially the full-fashioned branch, to hold down production to an absolute order basis during July and August."

Exploiting the big call for mesh full-fashioned hosiery, mills are actively promoting cheap grades of seamless nets, and appear to be doing excellent business. Rayon and other mesh hosiery, retailing at between 50 and 65c. is in spirited demand; some firms are sold four weeks ahead on these lines.

Half-hose is weak in price, but demand is active. Quality continues to grow more important, and 50c. numbers are enjoying steady movement. The trade-down tendency caused numerous mills to discontinue these lines, with the result that the firms now producing 50c. half-hose are in a good position; stocks of these numbers are limited.

▸Phoenix Hosiery Executives' Wages Cut

The Phoenix Hosiery Co., Milwaukee, have announced a wage reduction of 10% for executives, members of sales organization, office workers and certain piece work operators not previously affected by cuts. J. P. Mergeson, general manager of the company, said the wholesale prices of hosiery have dropped out of proportion to lowered costs, and the company finds no alternative to meeting this condition.

▸Western Outerwear Group Approves Waste Plan

Members of the Western District Knitted Outerwear Manufacturers' Association endorsed a plan for the profitable handling of knitting mill waste as presented to them June 3 at a meeting held at the Hotel Schroeder, Milwaukee, by S. R. Green, treasurer of the Green-Hamilton Co., Inc., Boston. Mills in the Cleveland district are operating under the plan, which will be presented to between forty and fifty mills in this district by a representative of the Green-Hamilton Co., in the near future. A suggestion of the Milwaukee Convention Bureau, that the National Knitted Outerwear Manufacturers' Association be invited to hold its 1933 convention in Milwaukee, was also endorsed by the Western District. The World's Fair will be held in Chicago in 1933 and Milwaukee's nearness to the city would make it an ideal spot for a convention, it is believed.

▸Full-Fashioned Mills Equalize Knitters' Rates

Important steps were taken this week by the unionized full-fashioned hosiery mills in Philadelphia toward equalizing rates for knitters. Following the lead of other mills, Gotham Silk Hosiery Co. on Monday changed from the double-machine to the single machine schedule; this makes effective a new schedule, by which the manufacturers pay 5c. more per dozen than called for by the double-machine rates However, knitters who formerly operated two machines will earn from 11 to 12c. per dozen less by running only one machine.

Dr. Paul Abelson, impartial arbitrator between the American Federation of Full-Fashioned Hosiery Workers and the manufacturers' group, said the revision meant no radical change either in wages or in manufacturing costs.

It was also learned that the Full-Fashioned Hosiery Manufacturers of America, representing mill owners, has written to the hosiery union, terminating the 1930 pact, as of Aug. 31, this year.

TEXTILE FINANCIAL NEWS

TEXTILE WORLD ANALYST

◆Plan Refinancing of Associated Textile

A PLAN of reorganization of Associated Textile Co.s is being evolved, whereby this holding company, in which William M. Butler is largely interested, and constituent companies will be linked together more closely. A minimum of $1,000,000 new capital for the new organization is already assured. Stockholders of the various companies will consider the plan at special meetings to be held June 24 and 25.

At present Associated Textile Co.s owns all the common stock of Hoosac Cotton Mills of North Adams, and New Bedford Cotton Mills Corp., and substantially all the common stock of Butler Mill of New Bedford. Under the plan, these three constituent companies will be consolidated into a new company, whose common stock will be owned by Associated.

There are at present preferred stocks of the constituent companies outstanding in the hands of the public. These stockholders will receive share for share 6% non-cumulative preferred stock of Associated Textile Co.s, a holding company, or may elect to purchase 7% cumulative preferred stock of the new consolidated company in which case they will receive for each $57 paid in cash, plus 0.42 of a share of present preferred, 1.42 shares of preferred stock of the new company. A syndicate has agreed to purchase sufficient of the new 7% preferred on exactly these terms to provide the new company with $1,000,000 in cash.

The new consolidated company will be in comfortable financial condition whereas the constituent companies, as Mr. Butler points out, have been unable to raise new capital, without which it is doubtful if they could continue in business.

Potomska May Reduce Capital

Stockholders of the Potomska Mills, New Bedford, Mass., will vote at a special meeting to be held June 16 on the recommendation of directors that the capital stock of the corporation be reduced from $1,800,000 to $1,200,000. Under the proposed plan of directors 4,892 shares will be purchased at $65 per share, which together with 1,108 shares already in the treasury, will take case of the 6,000 shares proposed to be canceled.

Skenandoa Rayon Shows Loss

Skenandoa Rayon Corp., Utica, N. Y., reports for the year ended Dec. 31, 1930, a net loss of $60,355 after all charges. This is the first report covering a full year's operations as the company was organized in 1929. Current assets at the end of the year totaled $729,072, and current liabilities $178,505.

The balance sheet of Borden Mills, Inc., cotton goods, Kingsport, Tenn., and subsidiary of American Printing Co., of Fall River, Mass., indicates a loss of approximately $15,000 for the year. Accounts receivable and merchandise totaled $602,292 and accounts payable $1,361,616.

Textile Mills Get Tax Refunds

Two textile mills will receive rebates on taxes from the Federal Government according to Washington advices this week. The Amoskeag Mfg. Co., Manchester, N. H., has been advised that it will receive $406,785 covering overassessment on taxes for 1919, 1921 and 1927 earnings. The Aragon Baldwin Cotton Mills, Spartanburg, S. C., has been allowed a refund of $29,871 for over-assessments made in 1927.

Boston Stock Auctions

The following sales of textile shares were made at auction, June 3:

Shrs.	Mill	Par	Price	Change
30	Associated Textile	...	35–36½	....
2	Naumkeag	100	70	—5
50	Nashawena	100	13½	....
10	Boston Woven Hose, com.*	...	52	....
92				

*ex. div.

Sales of Textile shares at auction on June 10 follow:

30	Associated Textile	36½	....
100	B. B. & R. Knight, pfd	5⅞	....
121	Cortecelli Silk, com	1¼	....
6	Ludlow	105	— 5
200	Pepperell	60⅛	—18
457	Total		

▸Southern Mill Stocks

(R. S. Dickson & Co., Charlotte, N. C.)

	Bid	Asked
Acme Spinning Co.	52	65
American Yarn & Processing Co.	46	54
Chadwick-Hoskins Co. (Par. $25)	6	9
Chadwick-Hoskins Co., 8%, pfd.	80	88
Crescent Spinning Co.	44	50
Durham Hosiery, 6%, pfd.	17	24
Erwin Cotton Mills Co., 6%, pfd.	85	92
Flint Mfg. Co.	..	58
Flint Mfg. Co., 7%, pfd.	85	92
Hanes, P. H. Knitting Co.	7	10
Hanes, P. H. Knitting Co., 7%, pfd.	87	95
Linford Mills	50	62
Perfection Spinning Co.	54	65
Roanoke Mills, 1st. pfd. 7½%	44	55
Rosemary Mfg. Co., pfd., 7½%	76	82
Stowe Spinning Co.	45	55
Ware Shoals Mfg. Co.	..	115
Ware Shoals Mfg. Co., 7%, pfd.	78	91
Winget Yarn Mills Co.	..	42
Wiscasset Mills Co.	130	141

(A. M. Law & Co., Spartanburg, S. C.)

Avondale Mills, Ala.	525	650
Bibb Mfg. Co.	85	95
Clifton Mfg. Co.	80	85
D. E. Converse Co.	..	75
Dunean Mills	70	90
Dunean Mills, pfd.	94	98
Gossett Mills	..	35
Hunter Mfg. & Com. Co., pfd.	77	83
Judson Mills, A pfd.	83	86
Judson Mills, B pfd.	79	83
Monarch Mills	70	80
Newberry Cotton Mills	80	90
Orr Cotton Mills	35	45
Pacolet Mfg. Co.	..	70
Piedmont Mfg. Co.	..	80
Riverside & Dan River Mills(Par $25)	8	10
Riverside & Dan River Mills, 6% pfd.	70	75
Southern Bleachery & Print Wks.,pfd	40	50
Spartan Mills	95	105
Union-Buffalo Mills, 1st pfd.	..	60
Victor-Monaghan Co.	..	43

▸New England Textile Stocks

Quotations at "Public Sale" are based on last sales at Boston Public Auctions and Boston Stock Exchange. Bid and Asked prices are latest quotations of dealers.

	Sale	Bid	Asked
Am. Mfg. Co., pfd.	52	42	46
Amoskeag	8½	...	...
Arlington	18½	18	20
Associated Textile	36½	34	37
Bates	60	48	...
Berkshire Associates, com.	12½	5½	6½
Berkshire Associates, pfd.	40½	29	34
Bigelow-Sanford, com.	21	...	...
Boott Mills	120½	70	...
Edwards	80½	58	63
Esmond, pfd.	98	95	99
Farr Alpaca	41	...	36
Hamilton Woolen	40	33	38
Hill	9	9	12
Indian Orchard	10	10	15
Ludlow	110	102	...
Merrimack, com.	35	15	...
Nashua, com.	7½	6	8
Nashua, pfd.	29	28	33
Naumkeag	70	...	73
Newmarket	16½	10	15
Otis	45	43	48
Pacific	17½	...	...
Pepperell	78½	60	63
Plymouth Cordage	58½	55	58
York	8½	7	...

▸Textiles on N. Y. Exchanges

The following shows the movements of the leading textile stocks listed on the New York Stock Exchange and Curb for the week ended June 9.

	High	Low	Last Sale	Net Ch'ge
Adam Millis	23	23	23	— ¼
American Woolen	7½	5½	7	+1½
American Woolen, pfd.	26½	25½	26½	+4½
Belding-Heminway	2½	2½	2½	+ ⅛
Cannon Mills	20	19½	20	+ ½
Century Ribbon	4	4	4	...
Collins & Aikman	12½	11½	12	+ 2
Consolidated Textile	⅜	⅜	⅜	+ ⅛
Duplan Silk	12	11	12	— ⅛
Durham Hosiery, pfd.	21	21	21	...
Gotham Hosiery	11	9	10½	+2½
Industrial Rayon	27½	25½	27	+2½
Kayser, Julius	12½	10½	11	+ ⅛
Kendall, pfd.	42½	39½	39½	—5½
Mallinson	2	1⅞	2	+ ⅛
Mohawk Carpet	13¼	12	12	— ¼
Munsingwear	18	17½	17½	— ½
Pacific Mills	17½	17½	17½	+2½
*Pepperell	64	63	63	—5½
Real Silk Hosiery	13½	9½	9½	—3½
*Tubize	5½	5¼	5½	+1½
United Piece Dye Works	25⅛	23½	23½	— ¼

* Listed on Curb.

▸Rayon Market Report

(Continued from page 50)

for a steady let-up through the remainder of the month. It is estimated that obsolete yarn turnover for June to date is only ⅓ of that in the same period last month, and the market expects the demand to drop further next month. Certain producers are reported to have ceased making these obsoletes and it is understood that stocks have materially dropped in the last month.

Domestic waste dealers find little encouragement in their own market at the moment, but there are reports of stronger prices prevailing in Europe. This would tend toward a firming here, if demand was strong enough to stimulate imports; at present, very little waste comes from Europe, as the domestic demand is light. Some fair quantities of open bleached changed hands this week. Prices hold firm, and even tend upward, as there is little waste available and a few dealers are sold well into July on preferred grades.

QUOTATIONS

at close of business, June 10, 1931
Prices cover average qualities unless otherwise stated

Cotton Goods

	June 10	June 3	June 11, 1930
PRINT CLOTHS			
27 -in., 64x60, 7.60	3¼c.	3¼c.	4¼c.
38½-in., 64x60, 5.35	4¼–4½c.	4¼c.	5¼–5½c.
39 -in., 68x72, 4.75	5¼c.	5¼c.	6½–6¾c.
39 -in., 72x76, 4.25	6c.	6¼–6½c.	7¼c.
39 -in., 80x80, 4.00	6¼c.	6¼c.	8¼–8½c.
BROWN SHEETINGS			
36-in., 56x60, 4.00...	5¼c.	5¼–5½c.	7¼–7½c.
36-in., 48x48, 3.00...	5¼c.	5¼c.	8¼–8½c.
37-in., 48x48, 4.00...	4¾c.	4¾c.	6¾–6¾c.
PAJAMA CHECKS			
36½-in., 72x80, 4.70	5½c.	5½–6 c.	6¾c.
36½-in., 64x60, 5.75	4¾c.	4¾c.	5¾c.
MISCELLANEOUS			
Drills, 37-in., 3 yd...	6 c.	6¼c.	8½c.
Denims, 2.20	12 c.	12 c.	15 c.
Tickings, 8 oz.	15½c.	15½c.	18–19½c.
Standard prints	7¼c.	7¼c.	9¼c.
Eastern staple ginghams, 27-in.	8 c.	8 c.	10 c.

Cotton Waste

Peeler comber	7 – 7½
Peeler strips	6½– 7
Sak. comber	7½– 7½
Choice willowed fly	4 – 5
Choice willowed picker	3 – 4
Sak. strips	10½–11
Linters (mill run)	2½– 3½
White spooler (single)	6 – 6½

Cotton Yarn

CARDED (Average Quality)
Double Carded 2c.—4c. higher according to quality

SINGLE SKEINS OR TUBES (Warp Twist)

4s to 8s	$0.16 – .16½	22c	$0.20 – .20½
10s	.16½– .17	24s	.21 – .21½
12s	.17 – .17½	26s	.22 – .22½
16s	.17½– .18	30s	– .23
20s	.18½– .19	40s ex.qual.	.34 – .35

TWO-PLY SKEINS AND TUBES

8s-2	$0.16½	26s-2	$0.22 – .22½
10s-2	.16½– .17	30s-2	.23 – .23½
12s-2	.17 – .17½	36s-2	– .30
14s-2	– .17½	40s-2	.31 – .32
16s-2	– .18	40s-hi.brk.	– .35
20s-2	– .18½	50s-2	– .41
24s-2	– .21	60s-2	– .48

SINGLE WARPS

10s	$0.16½– .17	24s	$0.21
12s	.17 – .17½	26s	– .22
14s	.17½– .18	30s	– .24
16s	.18 – .18½	40s.ex.qual.	– .35
20s	.18½– .19		

TWO-PLY WARPS

8s-2	$0.17	24s-2	$0.21½– .22
10s-2	.17 – .17½	26s-2	– .22½
12s-2	– .17½	30s-2	.23½– .24
14s-2	– .18	40s-2 ordin.	.31½– .32
16s-2	– .18½	50s-2	– .41
20s-2	.19 – .19½	60s-2	– .48

8s-3 and 4-ply skeins and tubes: tinged, 15½–16 white, 16½-17; waste, 15-15½

HOSIERY CONES (Frame Spun)

8s	$0.16	22s	$0.19½– .20
10s	.16 – .16½	24s	.20½– .21
12s	.16½– .17	26s	.21½– .22
14s	.17 – .17½	30s tying	.22½– .23
16s	.17½– .18	30s reg.	.24 – .24½
18s	.18 – .18½	30s ex.qual.	– .26
20s	.18½– .19	40s	.32 – .33

COMBED PEELER (Average Quality)

TWO-PLY—(Knitting Twist) Cones

20s-2	$0.29 – .30	60s-2	$0.47 – .48
30s-2	.33 – .34	70s-2	.58 – .59
36s-2	.35 – .36	80s-2	.71 – .72
40s-2	.37 – .38	90s-2	.85 – .87
50s:2	.43 – .44	100s-2	1.04 –1.06

WARPS, SKEINS AND CONES

TWO-PLY—(Warp Twist)

20s-2	$0.30 – .31	60s-2	.48 – .49
30s-2	.34 – .35	70s-2	.58 – .59
36s-2	.36 – .37	80s-2	.70 – .72
40s-2	.38 – .39	90s-2	.85 – .87
50s-2	.43 – .44	100s-2	1.05 –1.07

SINGLES

12s	$0.25 – .25½	30s	$0.33½– .34
14s	.25½– .26	38s	36½– .37
16s	.26 – .26½	40s	.38
18s	.26½– .27	50s	.43
20s	.27½– .28	60s	.49
24s	.30 – .30½	70s	.59 – .60
28s	.32½– .33	80s	.70 – .71

MERCERIZED CONES—(Combed, Ungassed)

26s-2	$0.47 – .48	90s-2	$1.25 –1.27
30s-2	.49 – .50	100s-2	1.55 –1.57
36s-2	.52 – .53	120s-2	1.95 –1.97
40s-2	.55 – .56	30s	.60
45s-2	.57 – .58	40s	.65
50s-2	.59 – .60	50s	.72
60s-2	.67 – .68	60s	.80
70s-2	.79 – .80	70s	.92
80s-2	.91 – .92	80s	1.14

Cotton Prices and Statistics

FLUCTUATIONS OF FUTURES

	Closed June 4	For Week—High	For Week—Low	Closed June 10	Net Chge.
June	8.64	8.64	8.12	8.30	—.34
July	8.73	8.79	8.18	8.36	—.37
August	8.86	8.86	8.32	8.50	—.36
September	8.98	8.98	8.47	8.65	—.33
October	9.11	9.15	8.55	8.74	—.37
November	9.23	9.23	8.68	8.85	—.38
December	9.35	9.38	8.76	8.97	—.38
January	9.46	9.50	8.91	9.07	—.39
February	9.55	9.55	9.00	9.16	—.39
March	9.64	9.68	9.10	9.25	—.39
April	9.72	9.72	9.20	9.36	—.36
May	9.81	9.81	9.31	9.47	—.34

SPOT FLUCTUATIONS FOR WEEK
(Middling)

	New York	New Orleans	Liverpool
Thursday, June 4	8.80	8.52	4.77
Friday, June 5	8.60	8.29	4.78
Saturday, June 6	8.35	8.09	4.68
Monday, June 8	8.45	8.19	4.56
Tuesday, June 9	8.25	7.97	4.61
Wednesday, June 10	8.45	8.17	4.63

FOREIGN COTTONS

Egyptian Cotton

Alexandria Exchange, June 9		Change
July Sak	13.02	—0.44
June uppers	9.30	+0.02

June-July Shipment c. i. f. Boston
(Tariff not included)

Fully good fair Sak	16.15
Fully good fair to good Uppers	12.00

(By Anderson, Clayton & Co.)

Foreign cottons	F. O. B. New York, Cents
Peruvian Tanguis Strict Middling	18½
Peruvian Pima No. 1	18¼
Peruvian Moderate Rough	14
Peruvian Full Rough	18*
China Tientsin No. 1	10½
India Rough	7 to 10
India Smooth	7 to 10

*Nominal. (By Bruns-Nordeman Co.)

BASIS MIDDLING

	Saturday, June 6	Saturday, May 30
10 markets average	7.85	8.18
Memphis	7.50	7.80

PREMIUM STAPLES

First Sales from Factors Tables at Memphis

Grade Strict Middling	Prices Basis Firm
1⅛-in	10.40—10.65c.
1 3/16-in	11.75—12.00c.
1¼-in	16.25—16.50c.

CURRENT SALES

	For Week	Prev. Week	Week Before
Memphis total	4,616	3,149	4,405
F.o.b. included in total	4,366	2,793	4,347
10 markets	23,742	22,307	24,532

MEMPHIS RECEIPTS, SHIPMENTS, ETC.

	For Week	Last Year	Year Before
Net receipts	1,697	1,093	4,222
Gross receipts	8,432	8,121	12,958
Total since Aug. 1, net	655,388	930,262	854,442
Shipments	20,004	22,054	27,497
Total since Aug. 1	1,308,607	1,773,435	1,754,080
Total stock	185,387	216,898	110,693
Decrease for week	11,572	13,933	14,989
Unsold stock in hands of Memphis factors	14,630	34,164	.....
Increase for week	842	2,699	.....

AVERAGE PRICE JUNE-JULY SHIPMENT
HARD WESTERN COTTON
F.o.b. New England

	Middling	St. Middling
1 1/16-in	10½–11c.	11½–11¾c.
1⅛-in	11½–11¾c.	12 –12½c.
1 3/16-in	13½–13¾c.	14½–14¾c.
1¼-in	18½–19¾c.	20¼–21¼c.

Basis on New York, July 8.18.

SPOT FLUCTUATIONS AND STOCKS

Markets	Middling June 3	Middling June 10	Sales	Stocks This Week	Stocks Last Year
Galveston	8.60	8.50	1,578	492,299	214,448
New Orleans	*8.07	8.17	2,227	658,491	429,371
Mobile	7.75	7.60	55	247,868	14,626
Savannah	*7.84	7.96	1,010	352,711	75,598
Norfolk	8.38	8.19	904	65,739	53,672
New York	8.60	8.45	3,850	226,948	219,377
Augusta	8.06	7.88	188	68,157	57,978
Memphis	7.65	7.55	5,857	177,771	211,478
St. Louis	7.75	7.55	.....	6,083	8,844
Houston	*8.25	8.35	2,538	878,020	627,340
Dallas	7.80	7.60	794	7,156	13,066

*Tuesday price. Holiday Wednesday.

DIFFERENCES ON AND OFF MIDDLING

WHITE GRADES

	Dallas	Memphis	Montgomery	Augusta	Average
M.F	.75†	1.00†	.85†	.75†	0.88†
S. G. M	.60†	.75†	.75†	.63†	.70†
G. M	.50†	.50†	.60†	.50†	.52†
S. M	.35†	.25†	.35†	.25†	.31†
S. L. M	.50*	.50*	.50*	.50*	.50*
L. M	1.15*	1.25*	1.25*	1.25*	1.24*
S. G. O.**	1.80*	1.80*	2.25*	1.75*	1.96*
G. O	2.45*	2.05*	3.00*	2.25*	2.60*

YELLOW TINGED

G. M	.40*	.75*	.50*	.50*	0.54*
S. M	.65*	1.00*	1.00*	.75*	0.89*
M.**	1.40*	1.25*	1.50*	1.25*	1.42*
S. L. M	1.90*	1.75*	2.15*	2.00*	1.99*
L. M.**	2.65*	2.00*	2.75*	2.75*	2.67*

YELLOW STAINED

G. M	1.50*	1.50*	1.5	1.25*	1.45
S. M.**	2.00*	2.00*	2.00*	2.00*	2.00
M.**	2.75*	2.50*	2.75*	2.75*	2.70

BLUE STAINED

G M.**	1.50*	1.50*	1.50*	1.50*	1.50
S. M.**	2.00*	1.75*	2.00*	2.00*	1.98*
M.**	2.75*	2.25*	2.75*	2.75*	2.68*

**Grades not deliverable on contract. †On Middling *Off Middling.

Wool

OHIO, PENNSYLVANIA AND WEST VIRGINIA (IN GREASE)

Fine delne..	$0.24 –$0.25	¾ blood.....	$0.21 –$0.22
Fine clthg ..	.20 – .21	¼ blood.....	.20 – .21
½ blood	.23 – .24		

TEXAS AND CALIFORNIA (CLEAN BASIS)

Texas, 12 months..	$0.60 –$0.62
California, Northern	.51 – .53

PULLED—EASTERN (CLEAN BASIS)

A.A.	$0.65 –$0.68	B-Super...	$0.47 –$0.52
A-Super....	.53 – .55	C-Super...	.42 – .45

MONTANA, IDAHO AND WYOMING (CLEAN BASIS)

Staple fine	$0.61 –$0.63
Staple ½ bld.	.55 – .58
Fine and fine medium	.57 – .59
½ blood	.45 – .48
¼ blood	.40 – .42

MOHAIR—DOMESTIC

Best carding	$0.23 –$0.25
Best combing	.31 – .33

MOHAIR FOREIGN (IN BOND)

Turkey fair, average	$0.17 –$0.20
Cape firsts	.18 – .21

FOREIGN CLOTHING AND COMBING (CLEAN BASIS IN BOND)

Australia:	
70s	$0.52 –$0.55
64s	.45 – .48
58s-60s	.41 – .43
(IN GREASE)	
Montevideo:	
58s-60s	$0.19 –$0.20
56s	.18 – .19
50s	.16 – .17
Buenos Aires:	
4s, 40-44s	$0.14 –$0.15
5s, 36-40s	.12 – .13

FOREIGN CARPET (GREASE BASIS IN BOND)

Aleppo washed	$0.22 –$0.24
China: Combing No. 1	.13 – .14
China Filling Fleece	.12 – .14
Szechuen ass't	.12 – .14
Cordova	.14 – .15
Scotch black face	.15 – .17
East India: Kandahar	.17 – .19
Vican'r	.23 – .25
Joria	.23 – .24

Worsted Yarns

ENGLISH SYSTEM WEAVING

2-20s 36s	$0.77½–0.80
2-24s 40s	– .85
2-26s 44s	.87½– .90
2-28s 46s	.92½– .95
2-30s 48s	.95 – .97½
2-32s 50s	.97½–1.00
(Single yarns 5c. less than above)	
2-36s, 58s	$1.22½–1.25
2-40s, 60s	– 1.32½
2-40s, 64s	1.35 –1.37½
2-50s, 66s	1.47½–1.50
2-60s, 70s	1.85 –1.87½

ENGLISH SYSTEM KNITTING

2-20s, 44s in oil	$0.75 –0.77½
2-20s, 48s in oil	– .80
2-20s, 50s in oil	.80 – .82½
2-20s, 56s in oil	.92½– .95
2-20s, 60s in oil	1.10 –1.12½
2-20s, 64s in oil	1.20 –1.25
1-18s, 46s dyed	.95 – .97½
1-18s, 48s dyed	.97½–1.00
1-18s, 50s dyed	1.00 –1.02½
(Oil yarns 17½c. less)	
FRENCH SYSTEM	
1-20s, 58s	$1.05 –1.07½
1-20s, 60s	1.10 –1.12½
1-18s, 64s, dyed	1.32½–1.35
1-26s, 64s	1.12½–1. 5
1-30s, 60s, Warp	1.20 –1.22½
1-30s, 64s, Warp	1.22½–1.25
2-30s, 64s, Fancy mixes	1.45 –1.47½
2-40s, 64s, Zephyrs	1.35 –1.37½
1-50s, 66s	1.47½–1.52½
2-50s, 66s	1.55 –1.57½
1-60s, 70s	1.85 –1.87½
2-60s, 70s	1.90 –1.95
FRENCH SPUN MERINO WHITE	
1-30s, 50-50-58s on cops	$ .95 –1.00
1-40s, 50-50-60s on cops	1.10 –1.15
1-40s, 50-50-64s on cops	1.12½–1.15
1-40s, 50-50-64s Australian cops	1.20 –1.25

Underwear mixes, 3c., Solid color, 35c. additional.

New York Top Futures

	Closed June 3	For Week—High	Low	Closed June 9	Net Ch'ge
September	68.40	69.70	68.40	69.60	+1.20
October	68.50	69.80	68.50	69.70	+1.20
November	68.50	69.80	68.50	69.70	+1.20
December	68.50	69.80	68.50	69.70	+1.20
January	68.60	69.90	68.60	69.80	+1.20
February	68.70	70.00	68.70	69.80	+1.10
March	68.80	70.10	68.80	69.90	+1.10
April	68.86	70.10	68.86	69.90	+1.04
May	68.80	70.10	68.80	69.90	+1.10

Tops and Noils

TOPS—BOSTON

Fine (64-66s)	$0.82–$0.84
Half-blood (60-62s)	.78– .80
High ¾ blood (58s)	.68– .70
Aver. ¾ blood (56s)	.63– .65
Low ¾ blood	.60– .62
High ¼ blood (50s)	.53– .55
46s S. A. and N. Z.	.51– .53
44s S. A. and N. Z.	.50– .52
40s S. A. and N. Z.	.48– .50

TOPS—BRADFORD, ENG. (JUNE 5)

Fine (70s)	26d	¾ bld. (56s)	16d
Fine (64s)	23d	¼ bld. (50s)	13d
½ bld. (60s)	21d	Cross-bred (46s)	11d
¾ bld. (58s)	18d		

NOILS—BOSTON

Fine	$0.41–$0.43	High ¼ bld..	$0.33–$0.35
Half-bld.	.38– .40	Low noils...	.28– .32
Aver. ¾ bld..	.35– .38	Medium colored...	.25– .28
Fine colored..	.33– .35		

Wool Substitutes

WOOL WASTE

Lap, fine white	$0.65 –$0.68
Lap, fine colored	.48 – .52
Hard ends, fine white	.52 – .55
Hard ends, ¼ blood white	.35 – .38
Hard ends, fine colored	.25 – .27
Hard ends, medium colored	.18 – .20
Card, fine white	.23 – .26
Burr, fine Carbonizing	.27 – .30

OLD WOOLEN RAGS (GRADED FOR MFRS.)

Merinos, Coarse Light	$0.05 –$0.05½
Merinos, Fine Dark	.03½– .04
Merinos, Fine Light	.11 – .12
Serges, Blue	.06 – .06½
Serges, Black	.06 – .07
Serges, Red	.08 – .09
Knit, White	.23 – .24
Knit, red	.10½– .11
Knit, Light Hoods	.13 – .14
Worsted, Light	.05 – .05½
Worsted, Blue	.06½– .07
Worsted, Black	.06½– .07

Silk Yarns

THROWN SILK (60 day basis)

	Nominal
Japan organzine, 2 thd. spec. gd. XX. sk. 85%.	$3.75
Japan organzine, 2 thd. sp. crack. sk. 81%.	3.30
Japan crepe, 3 thd. gd. XX bob. 83%	3.45
Japan crepe, 3 thd. sp. crack. bob. 81%	3.35
Japan crepe, 4 thd. crack bobbins, 78%	3.25
Japan grenadine, 4 thd. sp. grand singles, 87%	4.70
Japan grenadine 3 thd. 90%	5.45
Canton crepe, 3 and 4 thd. ns. 14/16 on bobbins	2.30
Hosiery tram, 3 thd. Japan 90%	4.45
Hosiery tram, 5 thd. Japan, 85%	3.40
Hosiery tram, crack XX 78%	2.90

SPUN SILK YARNS (Terms: net 30)

40/2	$3.35	60/2	$3.55
54/2	3.50	62/1	2.45

Raw Silk

(60 Day Terms. Spot Goods.)

	13/15 White	20/22 White	20/22 Yellow
Super Grand, 86/88%	$2.90	$2.25	$2.25
Special Grand, 85%	2.60	2.20	2.20
Grand XX, 83%	2.45	2.15	2.15
Special Crack, 81%	2.35	2.10	2.10
Crack XX, 78%	2.25	2.05	2.05
Extra Extra, 73%	2.20	....	....
Best Extra, 68%	2.15	....	....
Canton filature, new style, 14/16			$1.45
Canton filature, new style, 20/22			1.35
Tussah filature, 8 cocoon			1.00

NATIONAL RAW SILK EXCHANGE

	Close June 3	For the Week—High	Low	Close June 9	Net Change
June	2.18	2.20	2.15	2.20	+.02
July	2.16	2.18	2.15	2.18	+.02
August	2.16	2.18	2.15	2.17	+.01
September	2.16	2.17	2.15	2.16	....
October	2.16	2.18	2.15	2.17	+.01
November	2.16	2.18	2.15	2.17	+.01
December	2.16	2.18	2.15	2.17	+.01
January	2.16	2.18	2.14	2.16	....

Total contracts, 504. Total number of bales, 5,040. Total approximate value $1,508,220. Trading unit crack XX 13/15 white 78%.

Domestic Rayon

VISCOSE PROCESS

Denier	Filament	First	Second
50	14	$2.15	$1.95
75	18–30	1.35	1.25
100	18–40	1.10	1.00
125	36–50	1.00	.90
150	30	.70	.67
150	40	.75	.72
150	60	.85	.82
150	75–90	.85	.82
170	24–27	.75	.72
170	60	.85	.82
200	30	.75	.72
200	35–42	.75	.72
300	42–62	.63	.60
450	54–60	.63	.60
600	72–96	.63	.60
900	100–144	.63	.60

Note: So-called "obsolete" yarns, 150/24 and 150/36, still available at 65c.

NITRO-CELLULOSE PROCESS

Denier	First Qual.	Second Qual.	Denier	First Qual.	Second Qual.
75	$1.35	$1.25	150	$0.75	$0.72
100	1.05	.95	175	.75	.72
125	.95	85			

CUPRAMMONIUM PROCESS

Denier	Filament	Price	Denier	Filament	Price
15	24	$3.10	65	45	$2.00
25	24	2.85	80	60	1.70
30	24	2.60	100	75	1.35
40	30	2.40	120	90	1.22
52	30	2.20	150	112	1.10
			180	135	.97

ACETATE PROCESS

Denier	Price	Denier	Price
45	$2.25 2.75	120	$1.90
55	2.05–2.55	140	1.30
65	2.45	150	1.40–1.85
75	1.80–2.70	200	1.55
100	1.65–2.45	300	1.50

Rayon Waste

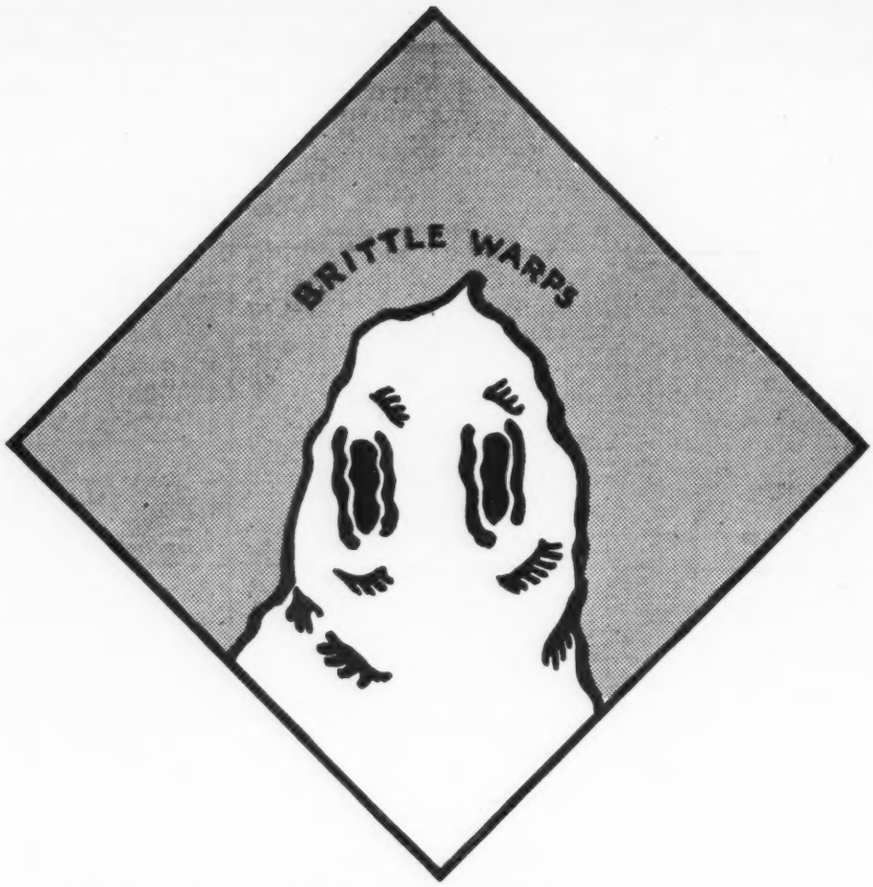
Open bleached waste	$0.12½–$0.13½
Open unbleached waste	.10½
Bleached thread waste (mfs.)	.09
Bleached thread waste (misc.)	.06– .07
Colored thread waste	.04
Colored clips	.04

CONVERTED RAYON WASTE

Bleached tops	$0.30–0.32½
Unbleached tops	.28– .29
Bleached noils	.11
Unbleached noils	.09½
Bleached garnetts	.12
Unbleached garnetts	.13
Colored garnetts	.10– .11

Silk Waste

Kibizzo Kakai Grand XX	$0.50
Kibizzo Kakai Triple Extra	.44
Frison Grand Double	.49½
Pierced Cocoons	.50



Does this phantom hover over your looms?

You know well enough what brittle warps mean in weaving. Loom stops—lost time—second or third quality cloth. But—do you know how easy it is to get warps completely sized, of just the right moisture content, for smooth, uniform weaving?

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The Individual-Motor Loom Drive

(Continued from page 33)

load with minimum slip and to avoid end-thrust load. The increased power required for higher-than-normal friction will be eliminated.

All loom manufacturers and most users will agree that the continuous-running type of motor application is preferable to stop-and-start duty application as was used when individual motors were first applied to looms. There are some looms driven by stop-and-start duty motors, such as carpet looms and plush looms, where reversing by power is desired. For silk, cotton, and worsted looms the continuous running motor drive is usually the more satisfactory. The motor can be designed for maximum running characteristics without regard to starting torque, as the loom is started and stopped by means of the clutch. When the motor is running at normal speed, the inertia of the rotor and its particular speed torque characteristic provides the desired quick start and pick action necessary for satisfactory loom operation.

Standard loom motors are listed for synchronous speeds of 1,200 r.p.m. and 1,800 r.p.m. at 60 cycles for either two- or three-phase circuits. It is most economical to select the higher speed motor if the gearing on the loom will permit using a practical size of pinion on the motor shaft to obtain the loom speed desired. The higher speed motor of a given horsepower rating is lower in price, smaller in dimensions, and has better operating characteristics. There are many applications however, which will not permit using 1,800 r.p.m. motors, and the 1,200 r.p.m. rating is necessary.

Most cotton and silk looms are ordered in equal numbers of right- and left-hand drive. Motors also must be ordered for right- and left-hand assembly, so that for adjacent looms the terminals will be brought out of the motor on the same side for direct wiring to the control switches. The bearing linings also are assembled "right or left" to distribute the pressure properly.

Improved Working Conditions

A weave room with individual motor-driven looms lends itself to much better lighting and improved working conditions, with less personal hazard and less possibility of soiled fabric. The illustrations on pages 32 and 33 show a weave room before and after changing to individual motors. Wiring is generally carried under the floor and is arranged for grouping twelve to sixteen looms on a branch circuit protected by fuses.

Individual switches are used for each motor, being mounted on pedestals either singly or in pairs. For right- and left-hand looms it is more economical to use two switches mounted on a double pedestal, as only one outlet in the floor is then necessary for wiring two individual switches to adjacent looms. The switches are furnished with either thermal cutout or thermal relay protection to protect the motors from excess current from either single-phase operation or a sustained overload which might be injurious to the motor windings.

Special totally enclosed motors with waste-packed bearings have been designed for loom application. Waste-packed bearings using bronze linings pressed into the housings have been used many years with most remarkable success. Loom operation with its severe vibration and continuous shock on the bearings resulting from the picking action of the loom is a considerable hardship on any motor, but these motors have been giving most satisfactory operation for many years. Maintenance expense is unusually low for such service. One mill having over 4,000 motors reports that the cost of upkeep not including regular inspection and oiling over an 11-yr. period was approximately 2.1c. per motor per year.

Oiling is recommended once in three months, and once a year the waste packing in rearraged. The average cost for oiling a large group of loom motors would amount to approximately 25c. per motor per year. It is not necessary to remove the pinion on the motor or disturb its mounting on the loom to change the waste packing, as the opening to insert the packing is accessible at the top of the bearing housing and outside the end shields.

Census of Cotton Goods Output by States Shows Southern Volume

The Bureau of the Census, Department of Commerce, Washington, D. C., has released statistical tables showing the production of cotton goods by class of goods, quantity and value, broken down by States, for the years 1923, 1925, 1927 and 1929. In 1929 the New England States produced $450,659,979 in cotton goods, and the cotton growing States produced $970,340,134, about 32 and 68% respectively. Similar figures for 1927 are $510,996,193 and $897,-813,590; for 1925, $607,925,188 and $929,107,255; for 1923, $720,472,350 and $978,282,995.

Taking the major classifications of goods for 1929 the following is the division between New England and the cotton growing States in dollars: Sheetings, New England $23,010,642 and cotton growing States $118,225,214; print cloths, $14,456,454 and $106,897,-695; tire fabrics, $37,876,380 and $72,-248,291; shirtings, $13,421,375 and $31,-718,716; napped fabrics, $14,580,040 and $33,612,844; twills and sateens, $15,568,694 and $17,113,831; denims, $4,665,895 and $44,590,566; plushes, velvets, etc., $9,698,874 and $9,903,604; towels, etc., $1,478,928 and $26,895,312; cotton fabrics (other than shirtings and draperies) containing rayon, $20,020,-196 and $6,245,296; poplins and broadcloths, $23,584,497 and $16,529,035; fabrics (except draperies) wholly or in chief value of rayon, $16,278,071 and $6,262,294; lawns, cambrics, etc., $20,-243,883 and $4,089,601; bedspreads, $6,486,000 and $9,215,039; tickings, $1,874,695 and $6,496,017; cotton yarns for sale, $47,988,447 and $200,734,662.

Under the various subdivisions of the principal groups of materials production figures are given for each of the principal producing States together with a figure for all other States. As might be expected the southern States are leaders in most of the classifications.

Arbitration Council Recommends Uniform Clause in Contracts

At a recent meeting, fully attended, of the General Arbitration Council of the Textile Industry, composed of associations representing mills, selling agents, converters, finishers and brokers, all present favored the principle of recommending an arbitration clause in sales contracts reading as follows:

"Any controversy or claim arising out of or relating to this contract or the breach thereof, shall be settled by arbitration, in accordance with the Arbitration Law of the State of New York and the Rules then obtaining of the General Arbitration Council of the Textile Industry, or, if the parties should agree, in accordance with the rules or practice of any other established textile organization, and judgment upon an award rendered by all or a majority of the arbitrators may be entered in any court of the forum, state or federal, having jurisdiction."

The Council recognized at the time of its organization that there were a number of existing arbitration boards in the industry and have provided for the use of such facilities should the parties to a controversy so agree.

The standard arbitration clause has in accordance with this endorsement been recommended to members by The Cotton-Textile Institute and other associations in the Council.

A number of concerns in the cotton textile industry now have arbitration clauses in sales contracts but with little uniformity of language and some are so brief that they might give opportunities for long delay in arranging necessary details to bring about arbitration proceedings. It was, therefore, thought by the Council that a standardized clause, which had been given full consideration and approved by counsel, would be desirable.

Boston Wool Receipts

Receipts of domestic and foreign wools at Boston, also imports at Philadelphia and New York for the week ended June 6, based upon data compiled by the Department of Agriculture, follow:

	Week Ended June 6	Total to Date 1931	Total to Date 1930
Domestic	5,861,000	61,997,000	53,012,000
Foreign	934,000	23,870,000	36,922,000
Total	6,795,000	85,867,000	89,934,000
IMPORTS AT PRINCIPAL PORTS			
Boston	934,000	23,870,000	36,922,000
Philadelphia	1,420,000	21,502,000	27,552,000
New York	2,808,000	24,687,000	25,380,000
Total	5,162,000	70,059,000	89,854,000

▸ Annual Meeting of Textile Exhibitors Association

The annual meeting of the Textile Exhibitors Association was held Tuesday, June 9, at the office of the clerk, Boston, Mass. The following officers were re-elected: president, Edgar F. Hathaway of the Shawmut Engineering Co.; vice-president, W. I. Stimpson of Draper Corp.; secretary-treasurer, Chester I. Campbell. Directors re-elected include the above and, in addition: F. H. Bishop, Universal Winding Co.; Charles A. Chase, General Electric Co.; D. F. Edwards, Saco-Lowell Shops; Geo. P. Erhard, The Stafford Co.; F. W. Howe, Crompton & Knowles Loom Works; L. M. Keeler, Whitin Machine Works; S. F. Rockwell, Davis & Furber Machine Co.; Lewis E. Tracy, Lewis E. Tracy Co.

The meeting was well attended, the following being among those present: W. I. Stimpson, Chester I. Campbell, F. H. Bishop, Charles A. Chase, D. F. Edwards, F. W. Howe, L. M. Keeler, S. F. Rockwell, Lewis E. Tracy and Frank L. Nagle. In the absence of the president, W. I. Stimpson presided.

Discussion of date of next exhibition was postponed until next meeting.

▸ Japanese Claim No Profit in New Season Silk

Present selling prices of new season silk combined with prevailing production prices are said by the Japanese silk trade to yield no profit, according to a cable received by the Department of Commerce from Commercial Attaché Halleck A. Butts.

The complete text of the cable follows: "May raw silk imports approximately 50,000 picul bales. First sale of spring cocoons indicates silk production cost amounting to 520 yen for yellow silk and 550 yen (yen equals about 50c.) for white silk. Forward silk contracts call for approximately the same prices, which indicates no profit on the operation. Trade endeavoring to reduce summer and autumn cocoon crops 30% from average of last 3 years."

▸ New Cotton Waste Specifications

Federal Specifications Board, Washington, D. C., will adopt new specifications for purchase of white and colored cotton waste and for birdseye cloth by various Government departments. Manufacturers and others interested in these items are invited to forward suggestions to the board.

▸ Annual Outing of N. Y. Section A.A.T.C.C. on June 19

The annual outing of the New York section of the American Association of Textile Chemists & Colorists will be held at the Elmwood Country Club, East Paterson, N. J., all day on Friday, June 19. Golf will be played from 10 a.m. to 3.30 p.m. Cups will be given for low gross and low net, kicker's handicap. Horse shoe pitching contests will be held in the afternoon. Luncheon will be served at the club from 1 to 3 p.m. and dinner at 7 p.m.

▸ Textile Institute Considers Distribution Research on June 16

A discussion of distribution research in charge of the sub-committee on Economic Research will be the chief feature of the quarterly meeting of the United States Institute for Textile Research to be held at the Massachusetts Institute of Technology in Boston, Tuesday, June 16. Distribution research will be reviewed from three angles—the consumer's, the aid to be given by the Government, and the point of view of institutes of learning; scheduled speakers include: H. R. Scheel, of Botany Worsted Mills and chairman of the sub-committee in charge, Professor Elder of M.I.T.; Edward F. Gerish, of the U. S. Bureau of Foreign and Domestic Commerce, and A. W. Zelomek, of Fairchild Publications. Prof. H. J. Ball of Lowell Textile Institute will also speak touching on present and projected research at that institution.

▸ Seidel to Succeed McCullaugh?

Reports this week to the effect that C. Walter Seidel, for many years associated with Oscar Heineman Corp., silk throwsters, Chicago, and manager of that firm's raw silk department, had resigned, led to further reports that Mr. Seidel may succeed John Nash McCullaugh, as managing director of the National Association of Hosiery and Underwear Manufacturers. No successor to Mr. McCullaugh has been announced, but it is understood that the choice has narrowed down to a very small group, which includes Mr. Seidel.

▸ National Spun Silk Offers Spun Rayon Line

Spun rayon yarns have been included in the line of the National Spun Silk Co., New York, it was stated this week. This company has begun production, on the spun silk system, of plied spun rayon yarns in the range from 30-2 to 60-2 (spun silk counts) and later hopes to include single numbers. While National may later develop spun rayon crepe yarns, present production is all on ordinary twist, it is said. The company is using a domestically produced rayon staple fiber of greater length than frequently used in spun rayon yarns, and from reports it is understood that this has given the yarn good strength and evenness.

Business News

Hugh Black Succeeds Hext Perry as District Manager for Detroit Graphite

Hugh Black, sales representative of the Detroit Graphite Co., whose headquarters for several years have been in Greensboro, N. C., was recently named district manager to succeed Hext Perry, and is now in charge of the Greenville, S. C., office of that company. Mr. Black will have charge of sales in South Carolina, Georgia and Tennessee. Mr. Perry recently resigned to become purchasing agent for a group of southern textile mills.

H. R. Myers Succeeds D. R. Weedon in Hungerford & Terry Boston Office

Hungerford & Terry, Inc., Clayton, N. J., have announced that D. R. Weedon, who has been connected with them in their Boston office for four years, has severed this connection. H. R. Myers, for the last six years chief engineer of the company, has taken charge of the New England territory to continue the company's services to its New England customers. The Boston office will remain at 53 State St.

R. E. Steere to Represent Hermas Machine Co. in New England

The Hermas Machine Co. has made arrangements with Robert E. Steere whereby Mr. Steere will handle products of the Hermas Machine Co. throughout New England. He has for several years been the general superintendent of the Cotton Division of the Lorraine Mfg. Co., at Pawtucket and Westerly, R. I.

A. D. Cameron Joins Holophane Co. as Manager

The Holophane Co., Inc., New York City, has appointed A. D. Cameron as manager, effective June 1. Mr. Cameron was formerly active in the lighting field as manager of the Lighting & Supply Division, Central Station Department, General Electric Co., Schenectady, N. Y. Later he was appointed vice-president of the Hall Electric Heating Co. of Philadelphia.

J. W. Eshelman to Serve Larger Territory on Copes Systems

Northern Equipment Co., Erie, Pa., has appointed Joseph W. Eshelman as representative for Copes feed-water regulators, pump governors, differential valves and allied equipment in eastern Tennessee. This is an extension of the territory formerly served by Mr. Eshelman from his offices in the Webb-Crawford Building, Birmingham, Ala.

D. J. Quammen Appointed Manager of Philadelphia District for Cutler-Hammer

D. J. Quammen has been appointed manager of the Philadelphia district office of Cutler-Hammer, Inc., manufacturers of electric motor control and allied apparatus, whose headquarters are at Milwaukee, Wis. Mr. Quammen succeeds F. J. Burd, who has been made assistant manager of the Chicago office of Cutler-Hammer. Mr. Burd will have charge of industrial sales in the Chicago district, and of the C-H (Harland) paper machine drive, throughout the country.